

American FORESTS



1885



1935

FIFTY YEARS OF PROGRESS

In 1885, fifty years ago, the American Telephone and Telegraph Company was formed.

There were few telephones then and service was slow, uncertain and limited to separate communities. In that year the largest number of telephones in any one city was 8400, in New York.

New York now has 1,500,000, Chicago 800,000, Philadelphia 350,000.

From your own Bell telephone you may talk with any one of

17,000,000 other telephones in this country and most of those in foreign lands. Today, 93% of all the world's telephones are within reach of the Bell telephone in your home or office.

This year marks also the Twentieth Anniversary of the opening of the first transcontinental line, from New York to San Francisco, and the Eighth Anniversary of

the opening of transatlantic service.

The work of improving Bell telephone communication is never ended . . . it goes on and on toward a constantly higher standard. Further improvements as important as those of the past half-century will come through Bell System research, manufacturing and unified operation.



BELL TELEPHONE SYSTEM

To make your telephone service dependable, 94 per cent of the Bell System's 80,000,000 miles of wire is now in storm-resisting, lead-covered cable. Sixty-five per cent of it is buried beneath the ground.

AMERICAN FORESTS

OID BUTLER, Editor

L. M. CROMELIN and ERLE KAUFFMAN, Assistant Editors

CONTENTS FOR MARCH, 1935

Vol. 41

No. 3

THE COVER—"Cagey Critters"

Photograph by M. S. BENEDICT

FRONTISPIECE

Aspens by The Road—Photograph by W. F. Dickson.

SHACKLING THE MOUNTAIN FLOOD

By REED W. BAILEY..... 101

MUST THE ISLE ROYALE MOOSE STARVE?

By BEN EAST..... 105

THE TREE

Poem by DANIEL CARTER BEARD..... 108

DEATH CLAIMS GEORGE D. TRATT

..... 109

THE TREES OF THE OLD HOMESTEAD

By FRED MORRELL..... 110

WANTED—A FEDERAL POLICY OF FOREST PURCHASES

By A. G. T. MOORE..... 112

"HACHINOKI"

By DONALD W. PIERPONT..... 113

F.E.R.A. SPEEDS UP ROADSIDE PLANTING

..... 116

EDITORIALS

George D. Pratt..... 117

The Purchase of Public Lands..... 117

Looking Ahead for the Elms..... 118

YOUR CONQUEST OF THE WILDERNESS

..... 119

FROM OREGON'S JUNGFAU

By A. O. WAHA..... 120

ILLCIT TRAFFICKING IN BEAVER—PART II

By CALVIN RUTSTRUM..... 122

FIELD AND FOREST FOR BOYS AND GIRLS

"Why Do Birds Migrate?"..... 124

By JOHN HARVEY FURBAY..... 124

TREES AND THEIR USES

No. 3—"Sugar Maple"..... 125

LOBLOLLY PINE (Tree Series)

..... 126

AROUND THE STATES

..... 129

BOOK REVIEWS

..... 137

FORESTRY IN CONGRESS

..... 138

ASK THE FORESTER

..... 139

"WHO'S WHO" AMONG OUR AUTHORS

..... 152

PUBLISHED MONTHLY BY
THE AMERICAN FORESTRY ASSOCIATION

1713 K STREET . WASHINGTON, D. C.

35c A COPY

FOUR DOLLARS A YEAR

The Editors are glad to receive manuscripts and photographs submitted for publication, but they do so only with the understanding that they shall not be responsible for loss or injury thereto while in their possession or in transit. All manuscripts and art material should be accompanied by return postage. The Editors are not responsible for views expressed in signed articles Notice of change of address of AMERICAN FORESTS should be received by the fifteenth of any month to affect the mailing of the following month's issue.

Member A. B. C.

Copyright, 1935, by The American Forestry Association



A FOREST

An open forest,
Deep and endless,
Row after row
Of purple trunks,
Long dim vistas
Where shadows play
With gay sunbeams
Stealing in and out
Through the sombre dome
The great leaf crowns
Are forming.

—MARY WIRT FRY.

Attention—

**OFFICIALS OF PARKS, SCHOOLS, HOSPITALS,
COUNTY ROADS, AND OTHER PUBLIC
PROPERTIES**

We are ready to assist in the preparation of your application for

TREE PLANTING PROJECTS

At the request of the Fairmount Park Commission of Philadelphia, Pennsylvania, we assisted in the preparation of the first tree planting project using Emergency Relief Labor. Since then we have assisted other political sub-divisions with the preparation of applications for similar projects.

Tree planting projects will enhance in value and become living monuments to your leadership. Useful employment will be provided for relief labor, representing about 80 per cent of the total cost and trees acquired from your local nurseries will be saved from overcrowding.

A set-up of a typical tree planting project including schedule of man-hours of skilled and unskilled labor required, trucks and other equipment **APPLICABLE TO ANY TREE PLANTING PROJECT**, based on the quantity and size of trees to be moved will be mailed to you upon request—without charge. Our tree moving equipment is thoroughly modern and deserves your consideration.

Detailed planting plan with list of trees required, prepared by competent Landscape Architect, can be obtained without cost.

LEWIS and VALENTINE COMPANY

HOME OFFICE:

ROSLYN, L. I., N. Y.

ARDMORE, PA.

RYE, N. Y.

AMERICA'S LARGEST ORGANIZATION OF LANDSCAPE ENGINEERS

ORNAMENTAL and FLOWERING TREES

== EVERGREENS and SHRUBS ==

Over 1,000 acres devoted to growing High Quality Nursery Plants. Large stock in sizes that will enable you to create effective results requiring a minimum of maintenance.

ANDORRA NURSERIES

Incorporated

ESTABLISHED 1886

CHESTNUT HILL

PHILADELPHIA

PENNSYLVANIA

EVERGREENS, SHADE and FLOWERING TREES

FOR PUBLIC WORK PROJECTS

♦ ♦

We have available a large selection of choice stock in large quantities.

*Lists and Quotations Furnished on
Application*

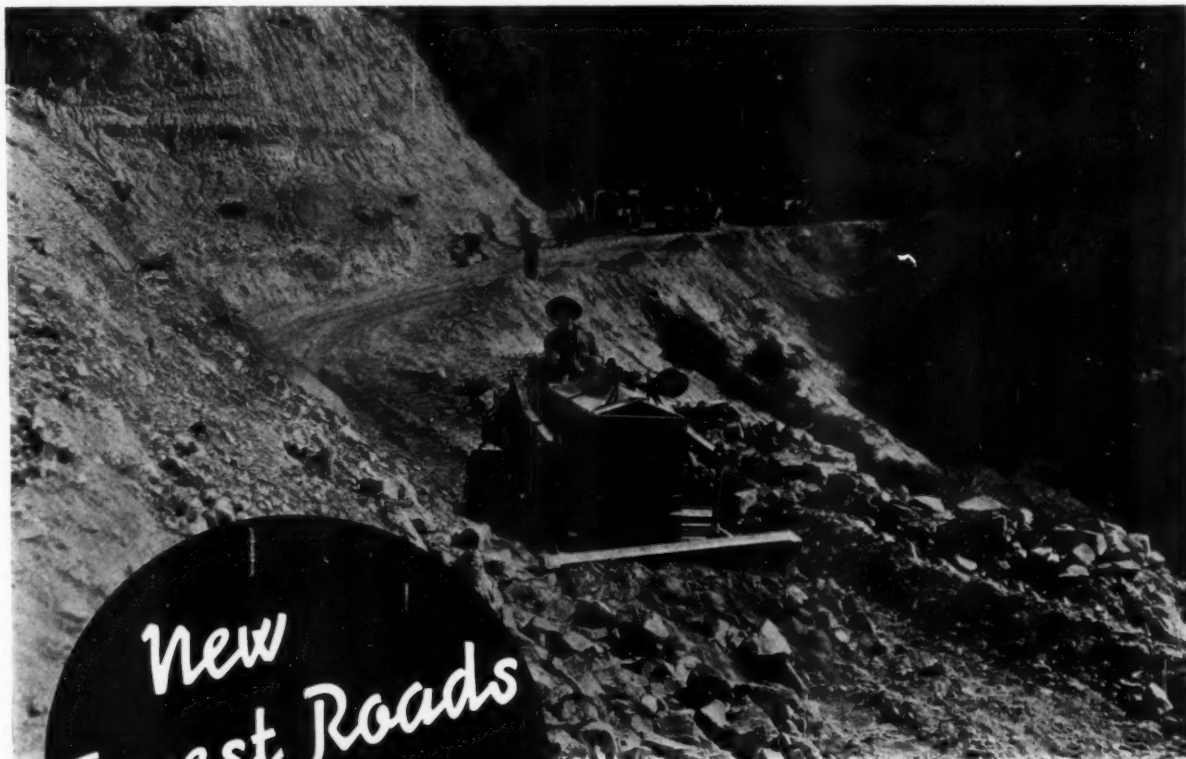
♦ ♦

TOWSON NURSERIES

Incorporated

TOWSON

MARYLAND



Chopped out of rocky hillsides, new roads appear in the wake of this Cletrac 35.



Not very inviting now, but when the Cletrac has finished its work you will be able to drive safely over this road to more of nature's hidden wonders.



Thousands of automobiles will soon follow this Cletrac to formerly inaccessible beauty.

DURING the past two years hundreds of Cletrac Crawler Tractors have been at work building new roads, and improving the old, through thousands of square miles of virgin forest.

It takes rugged men and rugged tractors to cut roads through this rough, rocky country. Cletrac has played a major part in opening mile after mile of automobile roads to new beauty spots in America's National Forests.

THE CLEVELAND TRACTOR COMPANY, Cleveland, Ohio

CLETRAC CRAWLER TRACTORS



W. F. Dickson

Aspens by The Road

*"Gaunt aspens by the road
Whose voices never still
But whisper of a Cross
Upon a lonely hill."*

—JOHN PHELPS.

Exhibited from Colorado in 1933
National Competition of
THE AMERICAN FORESTRY ASSOCIATION
"Beautiful Photographs of Trees in America"

AMERICAN FORESTS

Vol. 41

MARCH, 1935

No. 3

SHACKLING THE MOUNTAIN FLOOD

By

REED W. BAILEY

PERCHED perilously along the steep sides of the Wasatch Mountains in Utah, 9,000 feet above the sea and almost a mile above the Great Salt Lake Valley a small army of youths is engaged in a strategic movement to put an end to the floods that periodically come thundering down the mountain ravines to harass and plunder the peaceful settlements in the valleys below. Guided by the latest findings of research in respect to the causes of mountain floods, companies of the Civilian Conservation Corps are trenching steep slopes, building gully dams and planting vegetation on critical areas in what resembles from a distance a vast face-lifting operation on the rugged features of the mountains.

This modern soldiery is allied against what formerly and incorrectly was called the "acts of God," but which science today labels the "mistakes of man,"—mistakes resulting from a policy of land utilization that failed to recognize the influence of plant cover in regulating run-off and controlling erosion on mountain slopes. Destruction of vegetation on mountain watersheds by over-grazing and fires is widespread throughout the West. The technique of the rehabilitation work in Utah and its success in subduing floods, therefore, is of vital significance to communities everywhere subject to floods of mountain origin.

The establishment and expansion of settlements and industries in the arid West are fundamentally dependent upon water supply from plant-covered mountain watersheds. In Utah, as well as in most of the other states of the Intermountain region, the communities with their adjoining agricultural lands are situated in valleys, usually at the mouths of canyons on sediments brought down during past ages from the mountains by streams. In these valleys the rainfall is so scanty and evaporation is so high, that irrigation is necessary for general crop production. The mountain slopes and basins above the valleys constitute the source of both irrigation and municipal water. These same mountain slopes have been in urgent demand since early settlement for spring and summer grazing of livestock. In many localities, overstocking of the range has destroyed or greatly reduced the natural plant cover on parts of watershed areas.

If the condition of a watershed is so altered by natural causes or through improper utilization as to greatly accelerate run-off, disastrous results often follow. Soil and plant cover are the vital elements in regulating the run-off of any watershed. Their natural occurrence on the steep slopes of mountains, under the climatic conditions of the West, constitutes a delicate balance—a balance built up through the ages by the weathering of rock into soil and by the gradual improvement of the plant cover.

In certain rugged mountains of Utah this balance has been overthrown in whole or in part by destruction of the plant cover. "Bald" spots have developed on the mountain slopes, which when visited by heavy summer rains, have become the generating places of floods which sweep down the steep narrow canyons, carrying soil, gravel and boulders up to 300 tons in weight into the valley communities below.

In recent years, floods from several canyons along a sector of the Wasatch Mountains between Ogden and Salt Lake City—the most intensively cultivated and densely populated rural section of the state—have resulted in the destruction of homes, and the blocking of state highways and railroad lines. In addition, many acres of irrigated garden and farm land, worth several hundred dollars an acre, have been buried with debris containing boulders ranging up to ten feet in diameter.

The seriousness of these recurring floods led to an investigation of the causes of the floods by a special commission appointed by the Hon. George H. Dern, Secretary of War, then Governor of Utah. Further cooperative studies by the Utah Agricultural Experiment Station and the Intermountain Forest and Range Experiment Station have contributed much to an understanding of the causes, the history of floods in the region, and measures to overcome flood danger.

The mountains in this locality are steep and, in the absence of retardent and retentive material, are conducive to rapid run-off from torrential storms. The record of the character of run-off during the past five hundred centuries is recorded in the deposits of valley fill at the base of the mountains. The occurrence and recession of Lake Bonneville in this locality, many thousands of years ago, left clear-cut geological evidence in the form of shorelines and deltas which enable one to segregate the sands, clays, and boulders of the valley fill into three periods of formation, namely, pre-Bonneville, Bonneville, and post-Bonneville. The dating of these deposits made it possible to compare the quantities of material that had been brought down by the streams at different times. These observations revealed that in depth of cutting, in quantity of material and size of boulders carried, the recent floods exceed any others that have occurred since the recession of Lake Bonneville some 20,000 years ago. From this it is apparent that the recent floods mark a radical departure from the normal rate of post-Bonneville erosion and sedimentation.

The parts of the watersheds on which the floods originated were easily identifiable by the freshly incised gullies—unmistakable evidence of concentrated run-off—while on the well-vegetated slopes no gullying occurred. These

gathering grounds were found high on the watersheds near the heads of the drainages, where overgrazing and fires, during the past forty years, have destroyed or greatly reduced the vegetative cover on certain areas. The barren or depleted places are interspersed with areas of dense vegetation and often stand out as "islands" in an otherwise well vegetated landscape. Although constituting only a small part of the drainage as a whole, it was upon these "bare spots" that the flood waters originated.

The effect of vegetation in regulating run-off and erosion probably has never been more pronounced than it is

floods was rapid soil-laden run-off from depleted areas at the headwaters, it pointed to the need for stopping the rainfall in its tracks on these areas. Under the supervision of the Forest Service and Army personnel, a company of C.C.C. boys are at work on control measures designed to accomplish this end. They are carrying out the control program in minute detail as designed by the Intermountain Forest and Range Experiment Station, with the station investigators giving technical direction to the work. Control measures include protecting the critical areas against unwise grazing, the construction of terrace-



On these depleted and barren areas, before they were terraced and planted, run-off accumulated and flood waters descended the steep slopes to sweep down the canyons with increasing momentum, carrying debris, mud and rocks to the inhabited valley below.

in this section. On denuded slopes the plant cover and surface litter, which normally keep run-off spread over the slopes and facilitate absorption into the soil, were lacking. As a result, run-off rapidly collected into streams that increased in size and velocity as the water rushed down the slope, carving gullies as it went. With increase in volume of water came increased cutting and carrying power, thus adding large quantities of solid material to the moving mass. Descending the steep slopes this mass of water, mud and rocks formed the beginning of the floods that swept down the canyons in large heads, gathering debris and increasing momentum en route to the inhabited plain below.

Just as the investigation showed that the cause of the

trenches and check dams, and artificial reseeding and planting of the depleted areas in order to abet nature in the rehabilitation of the vegetative cover.

Contour terrace-trenches, which ascend the depleted spots on the steep upper slopes with step-like regularity, are the most conspicuous feature of this control system. They are designed to hold the rainfall, even of storms considered torrential in that locality, and at the same time increase the absorption of water by the soil, thus eliminating surface run-off from the critical areas.

A sufficient number of trenches were constructed of such a size and spacing as to hold all the water from any storm anticipated. Thus each terrace-trench is a potential reservoir for the temporary holding of rain water

pending seepage into the soil. The size and spacing of the trenches must be determined separately for every area treated, based on the degree of slope of the land, type of soil, extent of plant depletion, and intensity and quantity of rainfall. On the Wasatch Mountain slopes the average horizontal distance between the trenches is about twenty-four feet. Their capacity is slightly more than two cubic feet for each linear foot, which is adequate to hold the run-off from the space above the trench, produced by a storm of one and one-quarter inch rainfall of any known intensity in the locality, exclusive of seepage.

Each terrace-trench was first laid out with an Abney hand level and staked every few feet to assure as nearly a level trench as possible. On the more gentle slopes up to forty-five per cent, the trenches were first plowed with tractors equipped with caterpillar tracks and a trail builder. On the steeper slopes horses and plows were used, and under certain conditions, the entire trench was made by hand labor. In plowing these terrace-trenches the loosened soil was pushed down the slope to form a bank which acts



An air view of Wasatch Mountain front near Centerville, Utah, showing Parish Canyon flooded in 1930. Sweeping out into the valley, the flood wrecked seven homes, broke in the wall of the school-house (shown in center of flooded area), and destroyed valuable lands. Centerville Canyon to the right did not flood because its watershed lands had been protected by the town. Lower—Close-up view of demolished homes and seventy-five ton boulders deposited on rich farm lands.

as a barrier across the denuded and gullied slope. The upper cuts were reduced as nearly as possible to the normal gradient of the ground in order to minimize erosion.

After the trenches were roughed out with tractor or

plow, the men finished them with hand tools. This consisted of trampling and compacting the loose bank and constructing partitions in the terrace-trench at varying intervals to offset irregularities in gradient. Otherwise



A denuded and eroded "basin" perched 3,000 feet above the valley as it appears after the C.C.C. army has trenched its "bald spots,"—areas where mountain floods originate. The channel in the right foreground is thirty feet deep and was cut by rapid run-off from the adjacent bald spots.

the whole terrace might have reversed its purpose by becoming a drain ditch, which instead of holding the water would discharge a considerable volume down the slope in case any part broke during a storm.

The completed terraces were seeded with brome grass, slender wheatgrass, Kentucky bluegrass, and common rye, or with seeds of native grasses and weeds collected on ungrazed areas in the locality. Douglas fir or other suitable conifer seedlings will be planted in the spring of 1935, the trees to be set out at intervals of six to eight feet along the terraces. The establishment of plant cover on the freshly-made terraces is an indispensable part of this program of erosion and flood con-

trol. The accumulated water in the trenches will aid in the establishment of the vegetation, which is the permanent basis of control.

Since only the more critical areas are being trenched, some gullies will continue to receive considerable run-off until the area drained but not trenched becomes restored to an adequate plant cover. In these gullies, dams made of rock placed in wire baskets are being constructed for the purpose of establishing a new base-level of erosion, thus preventing further headward cutting or further deepening and widening. On these steep watersheds, the check dams are primarily for the purpose of retarding run-off and arresting erosion rather than for storing flood water or silt. The amount of debris that can be stored back of check dams is very small due to the steepness of the gradient.

The canyons from which floods have come are now gouged out so that run-off from the watersheds is rapidly delivered at their mouths. Accordingly some floods may occur as a result of the large accumulations of water from melting snow in the spring or from especially heavy summer rains during the period while the vegetation is being restored on the headwaters. A considerable amount of

Here is a close-up view of the terrace-trenches shown in the upper picture. C.C.C. boys are giving them the finishing touches preparatory to seeding them to grass. The trenches are designed to hold the rainfall until the water seeps into the soil.



erosion debris has been moved part way down the canyons and this high water may pick up enough debris to become destructive. Accordingly, the C.C.C. boys moved down into the valley for the winter where they are constructing barriers and diversion works at the mouths of the canyons for the purpose of protecting property lying in the paths of these potential floods.

The underlying principle of this work in the valley is to create a basin in which the stream
(Continuing on page 150)

MUST THE ISLE ROYALE MOOSE STARVE?

By
BEN EAST



© E. C. Oberholzer

WHEN the first band of moose came ashore on Isle Royale back in the winter of 1912, after a jaunt of fifteen miles across the treacherous ice of Lake Superior from the Canadian mainland, they doubtless believed they had reached a moose paradise as far as an abundance of food was concerned.

Yet today the descendants of that band, estimated to number anywhere from four hundred to a thousand animals, their ranks already thinned by the hunger of last winter, are facing the danger of wholesale starvation. In the event the present winter is severe,—and indications as this is written, late in January, are that it will be—there is good reason to fear that Isle Royale may serve as the stage for a wildlife tragedy as grim as that which overtook the elk of Jackson Hole or the deer of the Kaibab Plateau. So grave is the situation that the State of Michigan, having given up hope of saving the entire herd, is carrying on a novel experiment in an effort to bring a limited number of the animals through the winter in good condition.

A small party, headed by Paul F. Hickie, mammalogist of the game division of the Michigan Conservation Department, is spending the present winter on Isle Royale, cut off from all communication with the outside world

save that afforded by a short-wave radio set, cutting balsam and other natural browse in the hope of wintering at least fifty moose safely.

What that first pioneer band of moose failed to take into consideration, back in 1912, was that in settling on an island they were entering a range as definitely limited as a fenced park. If they prospered, thrived and multiplied, as there was every likelihood they would, it was inevitable that the day should come when they would eat themselves literally out of house and home, when they would exhaust their food supply and face certain starvation unless man interceded in their behalf.

Geologists have hinted that moose or their primitive forebears may have roamed the mountain slopes that are now Isle Royale as far back as 25,000 years ago, and one traveler asserts he saw a few moose on the island in 1880, when the copper mining days there were drawing to a close.

But, the invasion of 1912 is the only one on record in this century, and the moose that trekked across on the ice at that time found Isle Royale abounding in winter forage. Ground hemlock grew in tangled profusion on the rocky ridges. The forest was made up to a considerable extent of balsam, with plenty of browse within easy reach of the



Wholesale starvation, due to exhaustion of winter browse and over-population, faced the moose herd on Isle Royale this winter. In a final effort to avert the loss of the herd, the State sent Paul Hickie and Ellsworth St. Germain to the island to conduct a remedial experiment in big game management. They are headquartering here, at Holger Johnson's place, for the winter.



Too many moose resulted in tragedy on Isle Royale—the tragedy of starvation. This picture shows signs of heavy winter browsing by the hungry animals.

new herd. The moose had found neighbors already inhabiting the dense wilderness of Isle Royale—a thriving herd of woodland caribou, estimated to have numbered at least four hundred animals at its peak. Apparently, however the moose treated these original inhabitants with scant courtesy. From 1912 on the caribou herd began to shrink, and a dozen years saw its complete disappearance. Not a caribou has been seen on Isle Royale since 1925, and it is almost certainly established that none remains on the island today. No reason for their disappearance is known, although George Shiras, III, northern Michigan big game photographer and naturalist, maintains that moose and caribou will not consort together on the same range.

Whether the caribou drifted back by ice or water to Canada, whether they were harassed out of existence by the moose, or whether they never were as numerous on Isle Royale as reports of twenty years ago indicated will never be known. At any rate the moose, having Isle Royale to themselves, thrived and increased. And gradually conditions changed. Browse began to grow less abundant. The rushes were eaten out of the lakes and the waterlilies disappeared. Willows and aspen were cut down to the snowline. Mountain ash was girdled and killed.

And because the moose had established themselves on an island there was no place where they could go to find greener pastures, no new range to which the surplus members of the fast growing herd could migrate. Not often does Lake Superior freeze solidly enough to permit a winter crossing.

Then late in the winter of 1933-1934, with eight feet of snow on the ground, hunger struck and took its toll,

youngest calf and the oldest bull alike. Willow, cherry, mountain ash and other tidbits flourished, and all in all there was plenty of what it takes to make life worth living for a moose.

And when the first spring came and the snow went out of the swamps and bogs, and the thirty-odd inland lakes of the island were freed of ice, a veritable banquet of waterlily roots, rushes, pondweed and other water vegetation was spread for the

leaving the bones of no one knows how many moose scattered through the island forests for the coyotes to pick.

To understand the importance of the problem and the difficulties confronting the Michigan Conservation Department in solving it, it is necessary to know something about the size and nature of the island that serves the moose herd as its self-chosen prison.

Isle Royale is a rocky finger of land, the top of an ancient, worn-down mountain range, about 225 square miles in extent, nearly fifty miles long, and from three to eight miles in width. It rises above the gray plain of Lake Superior some fifty miles northwest of the Keweenaw Peninsula on the mainland of Michigan, forty miles south and west of Port Arthur, Ontario, and more than a hundred miles northeast of Duluth.

The great island is virtually the last stand of unspoiled wilderness in the Middle West. Without a foot of road, and almost without trails, it is covered with its original stand of timber. Its only human inhabitants are a scattered handful of fisherfolk, about twenty-five families in all, whose homes are sheltered on the long narrow harbors—and most of whom return to the mainland at the approach of winter. Isle Royale is today almost as wild, as remote, as lonely as when the first hardy fur traders pushed their bateaux along the rocky coasts of Lake Superior.

And since Congress passed



This is an aspen which, in their urgent search for food, has been repeatedly eaten back to the snow-line by the moose.

and President Hoover signed, back in 1931, a bill authorizing its acceptance as a National Park, and since the moose herd in recent years has become the largest and most heavily concentrated in the United States outside of the Yellowstone National Park, the preservation of at least a part of the herd and the prevention of wholesale starvation among the animals are matters of national interest.

Hunger did not overtake the moose, of course, without casting its shadow ahead. For the last several years warnings have been sounded from time to time that winter moose food was growing short on Isle Royale, and that the herd eventually would be in danger of starvation. For a long time, however,



Most of the island's entire supply of balsam has been eaten and winter browse is virtually gone. Mr. Hickie is inspecting here a balsam browsed over eleven feet high!

it was all but worth one's standing as a conservationist to voice such sentiments. It was generally believed, at least in Michigan, that they were inspired largely by a desire to see an open season on the moose, inasmuch as the island has long been closed to all hunting. Consequently little was done.

In 1929 Dr. Adolph Murie, of the Museum of Zoology, University of Michigan, began a survey of the moose herd on Isle Royale. He was on the island from July to October, returning the following spring to complete his work. Here, briefly, is what he found:

The moose had increased to well over a thousand animals, perhaps two or three times as many as that. All of the important winter foods were badly overbrowsed. Ground hemlock had almost completely disappeared. More than half of the island's entire supply of balsam had been eaten. Poplar, birch and mountain ash had suffered greatly from browsing. Summer overbrowsing, especially of lake plants, was beginning to be serious and already had wrought damage to other forms of wildlife.

Dr. Murie recommended a drastic reduction of the moose population and warned that if this course were not followed the rate at which the vegetation was being destroyed would increase rapidly and the time was near when disease and starvation would begin to thin the herd.

Unfortunately his report was not published until the summer of 1934, after the blow had fallen, and much of the value of his warnings was lost.

I first visited Isle Royale in 1926 and found it heavily populated with moose. I visited it again in the summer of 1930, and the following February, when the island was entirely deserted by human inhabitants, I returned by airplane, largely for the purpose of getting a glimpse of the moose herd under winter conditions.

I found conditions highly unusual for that time of year, with only about two feet of snow on the ground and the moose wandering widely over the island. I saw no sign of actual hardship in the herd nor did I succeed in seeing as many moose as I had hoped. In fact from the animals I saw and the tracks and other signs found, it was hard to believe that the moose population exceeded six hundred animals that winter. I recognized, however, that Dr. Murie's estimate was based on knowledge far more competent than my own.

Nothing of importance happened in connection with the moose herd from that time until March of 1934. Then, without warning, came news of tragedy. On the afternoon of March 7 I received a short-wave radio message from Holger Johnson, wintering on the island with his family, telling of unusually severe weather, deep snow, and heavy losses among the moose. The word was passed along to the Michigan Conservation Department and a lengthy exchange of radio messages followed.

Two flyers reached Isle Royale early in April, returning with discouraging reports. On April 19 navigation opened between the island and Duluth, and when the *Winyah*, regular mail and supply (*Continuing on page 123*)



This plane—only transportation link with the outside world until navigation opens—is used to reach the island for winter observations.



It is believed that the moose herd—if left to itself without human intervention—faces complete extinction.



Grim evidence—the skeleton of a moose which died of starvation on Isle Royale last winter. Unknown numbers have perished.



TOWERING BEECH

L. R. Koenig

THE TREE

By DANIEL CARTER BEARD

*The tree is a great chained giant,
Skin cracked and wrinkled,
Gray and weatherbeaten,
Mouth buried in its food,
The soil;
Its massive lungs spread out
And expanded to the breezes, which,
Rustling through the ramifications,
Bring life and vitality
To its sturdy old body.
The blood courses through its veins
In the form of sap;
Fixed, immovable, but
Fulfilling its destiny,
With a purpose as steadfast
As its person.*

DEATH CLAIMS GEORGE D. PRATT

Former President of The American Forestry Association and Leader in Many Fields of Human Service Succumbs After Long Illness

GEORGE DUPONT PRATT, former president of The American Forestry Association, and leader in many other fields of public service, died at his country home Killenworth at Glen Cove, Long Island, on Sunday morning, January 20. The illness which culminated in his death was of several months' duration and had forced him last summer to lay aside his many public activities. Upon the advice of his doctor, Mr. Pratt resigned the office of president of The American Forestry Association on June 12th last after having held the office continuously for ten years.

Born on August 16, 1869, Mr. Pratt was sixty-five years old at the time of his death. His career was one of service to his fellowmen and to those movements that he felt would contribute to higher and cleaner standards of American life. Not only was he active in all lines of conservation, but he was a patron of the arts and a leader in such youth movements as the Y.M.C.A. and the Boy Scouts of America. He was one of the founders of the Boy Scouts and served that organization as treasurer from its inception in 1910. At the time of his death he was vice-president of the Board of Directors of the Pratt Institute in Brooklyn, founded by his father, the late Charles M. Pratt. Widely known in the field of art, he served for many years as a trustee of the Metropolitan Museum of Art and as a director of the American Federation of Arts. He was a staunch supporter of the conservation of natural resources and long active as a director of a number of organizations serving the fields of forestry, parks and wildlife.

To all these interests, Mr. Pratt gave liberally of his time and money. While president of The American Forestry Association his gift of \$100,000 was instrumental in the creation of an endowment fund for the Association. Among his bequests is one of \$250,000 to the Pratt Institute, \$100,000 to the Metropolitan Museum of Art, \$100,000 to Amherst College, from which he was graduated, \$25,000 to the Brooklyn Y.M.C.A., and \$25,000 to the Brooklyn Society for the Prevention of Cruelty to Children.

Always a quiet and unostentatious friend and worker for the causes in which he was interested, Mr. Pratt first became prominent in the conservation field when Governor Charles S. Whitman in 1915 appointed him State Conservation Commissioner of New York. During his term of office he inaugurated policies and projects that were destined to make New York the leader in the field of state conservation. As Commissioner, he brought about the purchase as a permanent state reserve of some 400,000 acres in the Catskill

and Adirondack mountains. Another of his outstanding services as Commissioner was in behalf of Saratoga Spring. Upon finding that the property desired by the State was available but that the State had no money with which to purchase it, Mr. Pratt bought the land himself and held it until New York was able to buy it. He then turned it over to the State at cost.

Mr. Pratt also inaugurated a state-wide program of forest, game and fish protection. He was a strong believer in observation towers from which to detect forest fires and had more than fifty of them built during his term. As a result, losses from forest fires were reduced over ninety per cent. He encouraged and brought about the restocking of lakes and streams with fish and the development of the State's forests for recreational use. He was a strong advocate for educational publicity and started the use of motion pictures to bring home to the people the value of their resources and the work of the department in developing them. Mr. Pratt served as Commissioner for six years, following which he was prominent in national conservation work as president of The American Forestry Association and as director of the American Game Association and the National Parks Association. He was an early member of the Camp Fire Club of America and at one time its president and chairman of its conservation committee.

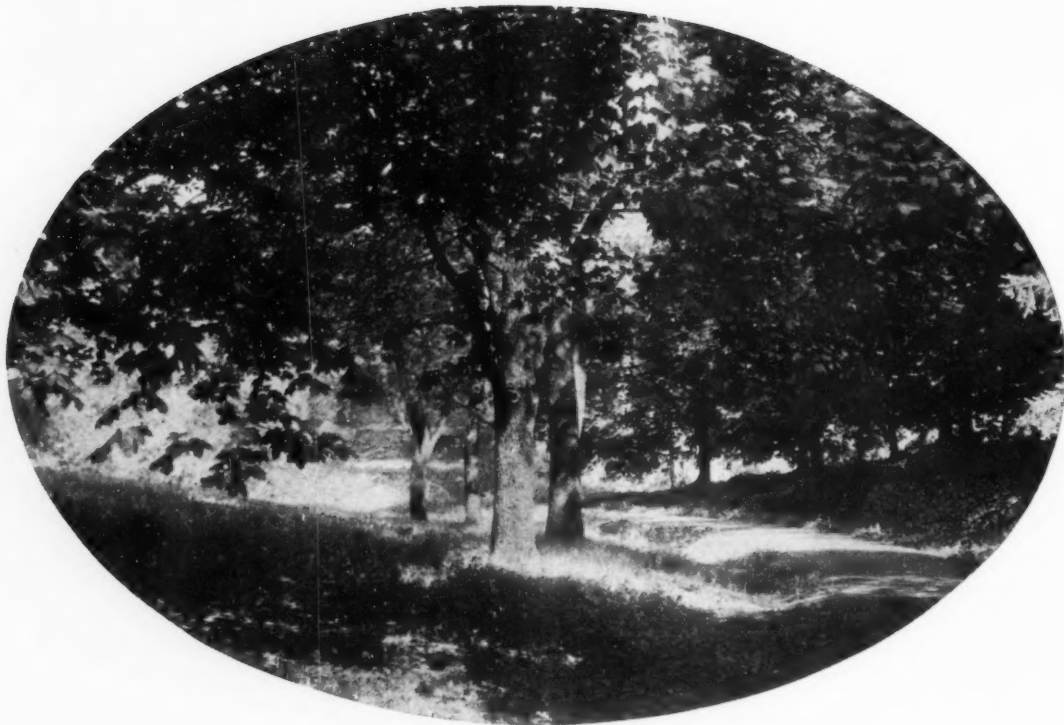
Elected president of The American Forestry Association on March 1, 1924, he served continuously in that capacity until June 12, 1934, when upon the advice of his doctor he asked to be relieved. In accepting his resignation the Board of Directors passed a resolution declaring: "Mr. Pratt has given so generously of his time, thought and energies, as well

as of his personal fortune in promoting public interest and support for the perpetuation of American forests, the preservation of natural beauty throughout the land, the protection of wildlife and the recognition of scientific principles in the conservation of natural resources as to place him for all time among the outstanding leaders in American conservation."

Mr. Pratt served the Association as president longer than any of his predecessors. His term extended over a period of ten years and three months during which time the Association witnessed a growth greater than during any other period of its long history. Its sphere of activities and influence was broadened in all fields, particularly in those of legislation and education. Improvements were made in AMERICAN FORESTS, a forester was added to the staff, and special educational projects dealing (Continuing on page 152)



George D. Pratt.



"The farm was the home of a large family of boys and girls, and the trees were a part of it."

THE TREES OF THE OLD HOMESTEAD

MEMORIES OF A PRAIRIE WOODLOT

By FRED MORRELL

I HAVE come from a visit to some old friends. Many years ago, a long while to me, but only a short time to them, I lived where they do in Nebraska. Then I moved away to Colorado and again to Montana. But they have never moved. Indeed they could not, for they are trees, and must perforce remain in one place even if the climate or the soil there is not to their liking. They did not appear as hearty, these old friends, as when I last saw them. Their foliage has thinned, like the hair on the heads of older men. One has a stag top, and from another a great branch has broken away and hangs down, dismal and bare. They are growing old. You see they do not belong to a long-lived race among trees; they are cottonwoods and do not live to see so many generations of men come and go as do many trees of other kinds. And yet as time is counted in the lives of men, they do live long. They were big when I was a small boy. My brother's children have played under them as did their father and I when we were

boys. Soon now will come another generation of children to dream and play and work under them as did their grandfathers fifty years before.

These cottonwoods will perhaps not mean as much to this coming generation of boys and girls as they did to us children a half-century gone, who now are gray-haired men and women.

On the farmstead now are other trees, trees that I helped to plant. But they were saplings then and did not count. The cottonwoods were all that we had in the way of trees. Our friendship among trees was limited to them. Of course there were the saplings, baby trees of elm and maple and black walnut. We had to dig deep holes

for them in the stony soil and carry water from the well at the bottom of the hill to make them grow. My father tried to encourage us in these hard tasks by telling how he had planted the cottonwoods when they, too, were small. These little trees would grow large like the cottonwoods and some day would be finer and bigger. But for

What do trees mean to prairie homes?

Here is one answer—the most human of them all—for it deals with the lives of those who have lived and will continue to live in the plains region. Mr. Morrell's article was written almost ten years ago and printed in the December, 1926, number of *Successful Farming*. It is here reprinted because it portrays so intimately the human side of President Roosevelt's shelterbelt of trees for the Prairie States.

my part, I did not believe all that. I thought he only said it to beguile me into this hard work for the sake of carrying out some mistaken notion of his own.

My father's prediction has in part come true. The little trees have grown big. But I was thankful on my visit to find the "big trees" still a little bigger than those others, even if they are old and somewhat ragged beside them. Of course they were not as big in my eyes as they were when I lived with them. Since then I have made the acquaintance of millions and millions of other trees: the tall stately pine, and the oaks of the South, the fat-boled white pine of the Inland Empire, the great firs of the west coast, and the redwoods of California.

But none of them are as big to me now as the cottonwoods were forty years ago. Then they were the biggest things I knew, higher than the house or the new barn, higher even than the windmill whose tower I could climb only half way on account of dizziness. I have been thinking of the great presents these old trees brought to us brothers and sisters and our playmates from nearby farms. A first recollection is standing in their shade and watching them sway in the wind. A cool breeze came and I thought the trees made it, as does a fan. I wondered why they sighed. My oldest brother could climb far up them to hang swings, or to their very tops, just as a feat of strength. He showed himself so much stronger and braver that I was willing to take his counsel in many things. And day by day I worked at this climbing business myself until at last I, too, was able to reach the top of the tallest of them. That was a great day. For the first time fear was conquered and never again could it hold me in so relentless a grip.

I like to think of the games of ball and of hockey and dare base that we played under their far flung shadows on torrid summer evenings when it was elsewhere too hot to play, or even to sit in comfort.

Dear to memory are the countless times when I came at noonday down the scorching road from a long morning's work in the field, and turned under the shadow of



"Dear to memory are the countless times when I came at noonday down the scorching road . . . and turned into the shadow of the cottonwoods."



"I am glad that after I am gone . . . the black walnuts that I helped to plant will be there."

the cottonwoods. When I passed through the gate into the shaded lane, leaving the merciless sun outside, it was like departing from a land of torture into one of rest and comfort. My weary, sweat-flecked team seemed as thankful as the boy who drove them. On late afternoons in winter we children fought our passage from the country school house two miles away, through snowdrifts piled high by the bitter wind. The shelter of the house, the warmth of the fire, the lunch that mother would have ready, were in our minds. But in our minds, too, was the grove of cottonwoods which we would reach first, because from there on the implacable wind would not torture, nor the snowdrifts block our progress.

The coming of spring and the passing of autumn are marked in memory by the cottonwoods. When the green-capsuled catkins appeared on the branchlets and the viscid leaves began to unfold, the spring had begun. When the capsules burst and spread their quivers of cotton, and the robin, the thrush, and the woodpecker landed in the grove at the end of their long flight from the South, we knew that the chilly days were over. And always did these summer residents stop first at the grove, as the immigrant stops first at the big hotel before seeking a more permanent home somewhere in the neighborhood. When the leaves had turned sear and fallen, and the thousands of (Continuing on page 149)

Wanted—A Federal Policy of Forest Purchases

By A. G. T. MOORE

THE year 1935 promises to be one of great gains in forest conservation. The American public at last is becoming forest conscious. The lumber and timber products industries have organized their forces for sustained production of raw materials. No less a person than the President of the United States assumes the leadership. A new Congress, it is hoped, will enact into law his proposals for public participation in a broad program of national forestry.

Three charts, prepared by three groups of informed and responsible persons are available for its guidance. And fortunately, these three guides point in the same direction. First is "A National Plan for American Forestry," the so-called Copeland report, by the United States Forest Service. Second, the recommendations of the Conservation Conferences, prepared jointly by public and private agencies responsible for the provisions of Article X of the Lumber Code. And finally, the preliminary report of the National Resources Board, a postulation of principles and methods for national planning and permanent management of resources. This report deals with five classifications and treats forest conservation as an integral factor of land use. It purports to give expression, through mixed membership of national and state boards, to the views and needs of private ownership and industry.

In his first message to the Seventy-fourth Congress, President Roosevelt indicated that he intends to use this latest study of national resources as a guide in a new drive against unemployment. His program for putting people to work is part of a larger program of security of livelihood through better use of national resources. And he mentions specifically two proposed forestry enterprises: the extension and enlargement of the work of the Civilian Conservation Corps, and the reforestation of the great watersheds of the Nation.

It is the President's expressed desire that except for certain normal public building operations, all emergency public works shall be united in a single plan. Also, that such works shall create better permanent jobs or new future wealth; that they shall compete as little as possible with private enterprise; that to the extent possible, they shall serve those who cannot secure the advantages of private capital. Undoubtedly, these practical principles are intended to apply to forest conservation works undertaken by the Government.

The necessity of continuing participation by private industry in ownership and management of forests has been proclaimed by the conferences which drafted the conservation section of the Lumber Code. The National Resources Board ratifies this proclamation. Both groups have recommended that federal and state ownership of forest lands be greatly increased by public acquisition of areas that are clearly unsuitable for private ownership. It is further proposed by public purchase to relieve the pressure to liquidate some of the private investments in timber and land. The aim is to supplement, but certainly not to discourage, private forest ownership and management.

Forest land acquisition, then, may be foreseen as one of the major proposals of any public program. Such purchases by the government in the past have been largely for watershed protection; by the President's own word, they will be so related in the immediate future. Large scale federal purchases were recommended by the Copeland re-

port. The President has allocated from emergency appropriations \$30,000,000 for such purposes. During the past twelve months, the forest lands acquired by the government have approached in area the total of all previous purchases over a twenty-two year period. And this is but a beginning. It has been seriously proposed that half a billion dollars of public money should be so invested during the next ten years.

At the moment, such expenditures may be of the nature of emergency outlays. But the property and the benefits therefrom will belong permanently to the public. How very important it is then that the conduct of such an acquisition program should be according to a well-thought-out policy that will give recognition and effect to the rights and needs of the many interested political and social groups.

The National Forest Reservation Commission has made a notable record as a finder of bargains in cutover lands. Its instructions from the Congress have been to preserve the watersheds of navigable rivers. Its policy, so far as can be ascertained from its actions, has been to purchase large areas of the most valuable cutover and reforesting land at distress prices. For years, its acquisitions were mainly in mountain areas of the East and in the Lake States region. Recently, it has moved into the Southern Coastal Plain on a very large scale.

Under the pressure of hard times, the old opposition of certain States has broken down and their legislatures have invited the federal government to come in and establish National Forests. Practically every eastern State today is open to the purchasing agents of the Federal Forest Service, without limitation or question.

The aim of forest conservation being sustained production of forest resources throughout the country and the need of quick results being socially urgent, it is imperative that private industry do its part. The most promising way for private ownership to function constructively is through the development of units of sustained yield operations by which sufficient timber is harvested yearly to permit the owner to carry on but the volume removed is held to or below the yearly growth of the forest. As management improves, growth increases. A number of such enterprises are in existence and the production quota premium of the Lumber Code for sustained yield operations is bringing others to light. In numerous instances, owners have been practicing crude but effective forestry without benefit of science.

It is in keeping with the spirit of today that strong emphasis is placed upon the social aspects of public forest ownership. The National Resources Board recommends intensive management of about three-sevenths of all public forests, an area that is expected to exceed that of intensively managed private forests. This new proposal is advanced for the protection of social values.

One criticism of lavish high-pressure spending to create jobs and excite prosperity springs from a reasonable fear of what may happen to established industry and its existing social values. In the process of re-locating the Nation's productive forests, so as to revive backwoods society, there is danger of destroying equally worth while communities where private ownership is feeling its way toward permanent forestry.

The Southern Coastal Plain is one of the most favored regions for private forestry. Yet despite the fact that private industry can and will (Continuing on page 152)



In this Japanese dwarf pine, simplicity and beauty conspire to attain perfection of art.

"HACHINOKI"

THE ART OF DWARFING TREES -- A PRACTICE WHOSE ORIGIN LIES
HIDDEN IN A LOVELY LEGEND OF OLD JAPAN

By
DONALD W. PIERPONT

THE usual English translation of the ancient Japanese word *Hachinoki*, or of its equivalent, *Bonsai*, that is sometimes used in modern Japan, is "dwarf trees." The Japanese prefer "potted trees."

The familiar "dwarf trees" that are the result of the European and American practice of propagating toy monstrosities for table decorations have no kinship with the *Hachinoki*. Indeed, there are few lovelier plants than the true "potted trees." In these the whole tree is perfect, but in miniature. The bark texture is retained, the leaves are well-shaped and the effect is that of viewing a magnificent forest tree through a reducing glass.

The origin of the potted tree is hidden in the mist of myth. One of the earliest of Japanese legends relates that Jimmu, first emperor of *Nihon* (600 B. C.), passed many years on the throne but was not blessed with a son to carry

on his line. After spending much time and most of his fortune in propitiating the local dieties a son was promised him, but a clause in the contract said that the son would retain the stature of a baby until he was fifteen years old. When the boy was born, in order that his son might not feel ashamed because of his small stature the emperor built a palace in which everything was reduced to the proportions of a baby. Even the palace servants were dwarfs. Surrounding the palace was a landscaped garden in which the boy played. To furnish trees suitable to the small son's size Jimmu, the Japanese say, had his gardeners cultivate the first *Hachinoki*.

It is certain that in the Fujiwara period (1000 A. D.) the cultivation of *Hachinoki* was wide-spread. Bunkio Matsuki, the Japanese authority, found *Hachinoki* mentioned in the chronicles of the Ashikoga literature. A lyric drama

AMERICAN FORESTS



To simulate age, a gnarled effect is sometimes produced by twisting the trunk and branches.

still popular in Japan tells of them in this incident of the Kamakura era.

On a bitterly cold and snowy night Hojo Tokijori, the Regent of the Shogun, in disguise as a Buddhist monk, asked for shelter in the hut of a poor farmer. The farmer welcomed him to the shelter of his roof, but he had no wood to burn to combat the cold—only three potted trees—pine, plum, and cherry. These last and most cherished possessions he sacrificed to comfort his guest. The indigent host was Genzaemon Sano, a famous Samurai who had been defrauded of his property during his absence on war service. The traveling monk departed the next morning without revealing his identity. As soon as he reached Kamakura he summoned Sano and had restored to him all his former estates and in addition,

Through this art the Japanese people express their love of forests they have lost. This is a dwarf cypress, known in Japan as Silvertip—an exquisitely dainty reproduction of the ancient giants of the species.

three districts bearing the names of pine, plum, and cherry.

The Japanese tell countless tales of Hachinoki, for potted trees are the outlet through which the Japanese people express their love of the forests they have lost. Older travelers will remember the beautiful avenue of cedars and pines that lined the fifty miles of road from Tokio to the temple at the foot of the Nikko hills. Such sights are rare today in Japan. The population is dense, the complete utilization of natural resources is imperative, and reforestation has only recently been practiced. The government is developing large landscaped gardens in various parts of Japan, but in the Hachinoki the humblest Japanese may have the pleasure of his own landscape panorama—in miniature.

In this love of nature must lie the origin of the potted trees. Then, too, Japanese art is not one of pictures but of decoration. The genius of the race has sought beauty in everything. They have directed their efforts to confer beauty on objects of common utility and materials of the lowest value. The appeal is to the imaginative and intellectual faculties and here again the Hachinoki plays its part.

So the potted trees occupy a prominent place in the life of the Japanese. Now the Occidental is beginning to appreciate their beauty and charm. In the larger cities in Japan dealers display many hundreds of specimens in their gardens for their clients to select from. Some collections are extremely valuable, running well into the hundred thousands of dollars. Travelers are bringing out some of these plants and a few American botanists are developing other specimens here.

It is often said that there is some great, mysterious secret about the cultivation of these trees which is known only to the Japanese, and that no "foreigner" can possibly grow a true potted tree. Actually their cultivation requires patience and constant intelligent attendance but it is by no means difficult.

Trees are started in small pots. Most of these must be



AMERICAN FORESTS

eliminated in the first year or two retaining only those that are perfect in development and most likely to lend themselves to miniature development. Between April and June the young shoots are nipped off with the thumb and finger. In the summer sufficient water is given to keep the soil moist (the Japanese insist on the use of rain water only), but in winter very little water is required. At this time the soil is covered with moss. It is essential that the pot be well drained. Large pebbles must be placed over the drainage holes. The soil is changed yearly in the spring and care must be taken not to overfertilize it. Only a small portion of manure is mixed with ordinary loam. The tree is not repotted unless it is absolutely necessary, but when the pots are changed, about a third of the old soil is removed. From this point on a constant cutting away of the undesirable portions is continued, maintaining as closely as possible the conformations of the species as it grows in the forests.

Matsuki says that in Japan those who train specimens roam over certain areas of mountains and ravines which are inaccessible to ordinary travelers in search of suitable young trees, and begin the training of the trees in their natural habitat. Later the undesired portions of the shoots are cut away and the entire plant is dug up. These plants are then known as *Neagari*, or uprooted dwarf trees. In some cases, a small artistically shaped stone is placed so that the partly bent trunk and root embrace it.

To simulate age a gnarled effect is sometimes produced by twisting the trunk and branches. The method varies according to the kind of trees, but in the case of the pine and hiba several longitudinal cuts about two and a half inches in length are made around the column of the trunk or branch. The stem is then gently twisted and tied with soft copper wire, or, better, with wisteria twine. It requires skill to make the scar as invisible as possible, for the value of the specimen in the eyes of the Japanese connoisseur is greatly



In this dwarf oak the rugged bark character is held and the leaves are well-shaped.

lowered if the scars are pronounced. The operation on the trees must be performed during the early forenoon, for the Japanese say that at that time there is less likelihood of the stem or branch breaking off. In order to facilitate the work the trainer applies a solution of *Funori*, a Japanese glue made from the marine alga, *gloiopeltis furcata*, which softens the

stems and thus facilitates the twisting.

The varieties of trees that can be used for potted specimens include species of pine, cedar, hiba, oak, ash, plum, maple, cherry, bamboo, elm, cypress and ginkgo. Five dwarf ginkgo trees were exhibited in Tokyo recently in a rectangular shallow jardinier not larger than fourteen by eight inches. The trees were less than a foot in height, but the gnarled trunks and boughs suggested every appearance of lovely ancient arbors while the foliage, the size of clover leaves, changing to various hues of brilliant yellow, suggested glimpses of perfect autumnal ginkgo groves—in miniature.

This dwarf Hinoki cypress is typical in its expression of dignity, beauty and age.



F.E.R.A. Speeds Up Roadside Planting

Emergency Relief Funds Await State, County and Municipal Improvement Projects as Spring Planting Season Nears

THE new working procedure recently issued by the Federal Emergency Relief Administration whereby emergency relief funds may be used in the planting of trees and shrubs along highways, parkways, city streets, in public parks, and other places where they will be of broad and lasting value, has caught the imagination of tree lovers everywhere.

Men and women who have long dreamed of shaded motorways, tree-fringed streets and beautifully landscaped parks, see in this new order an opportunity to realize their most cherished plans. Communities are looking toward their bare landscapes with new interest, counties and states with new hope. For in the opportunity given them by the F.E.R.A., they see immediate and useful work for their unemployed, permanent improvement in living conditions, and future new wealth.

In many communities planting plans are already being shaped. Projects both large and small are in the making. These are designed for the spring planting season which, in many regions, begins early in March. And because of the nearness of the season, state, county and municipal sponsors are urged to complete their plans and submit them as soon as possible to the proper Administration officials.

According to the working procedure, sponsors of projects may be state, county, or municipal agencies, highway commissions and other state or local governmental units. Individuals, groups and organizations may serve as co-sponsors, so to speak, by initiating and promoting projects, but the Federal Emergency Relief Administration will "contract" only with such state and local agencies as are responsible for highway, street and park improvements and equipped to plan, supervise and maintain all work. In other words, if a local group of club women desire to plant five miles of memorial trees along a county or state highway, they must first gain the approval of the local agency having jurisdiction over the roadway. Once this is done the agency will assume responsibility for the project,

assist in all plans, specifications and estimates, provide supervision and equipment, guarantee proper maintenance, and accept the role of "sponsor" in contracting with the Administration for relief funds. At the same time the state or county agency, or the local group initiating the project, will be required to furnish the planting stock, trees or shrubs, without cost to the Federal Government.

This procedure is necessary because under the ruling of the Administration emergency funds cannot be used for any other purpose than the hiring of labor, with the one exception that in certain cases funds may be used for the rental of tree moving and other equipment.

With the responsibility of sponsor definitely established, an application for funds must be filed with the county administrator of the Federal Emergency Relief Administration, along with plans, specifications and cost estimates. Plans and specifications should contain the list of all trees and shrubs, size of each unit, and the exact location where it is to be planted. Before such a plan is made, however, sponsors should check with local nurseries to determine what species and types of trees and shrubs are available.

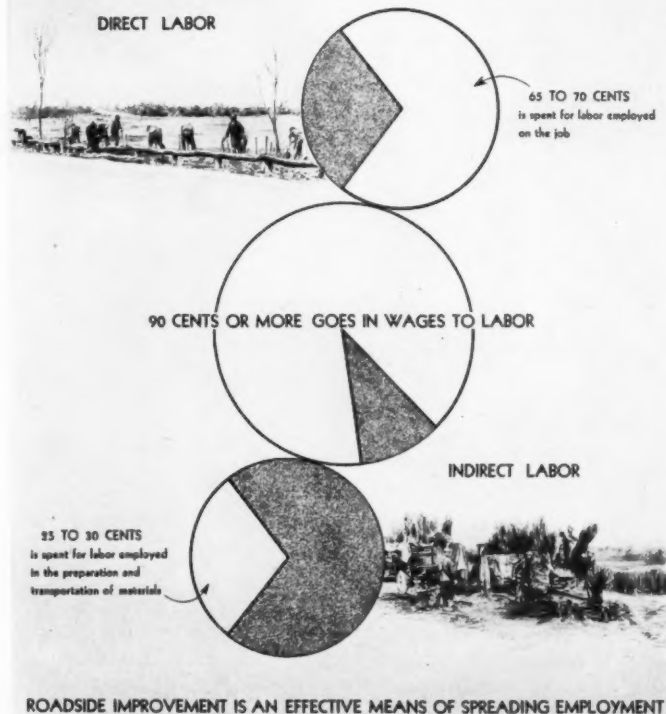
Planting stock, inasmuch as it is to be supplied by the sponsors, should be obtained whenever practical from surplus stocks of good quality in nurseries. This type of stock, ideally suited for roadside planting, may be purchased at a reasonable cost. The only

requirement of the Administration, in approving the stock, is that it be in proper physical condition.

Trees of this size and type should be well protected by balls of earth and burlap wrappings. The usual ratio is one foot of earth to one inch diameter of the trunk six inches above the ground. At no time should the trees or shrubs be permitted to become deficient in moisture, and there should be a correlation as to shipment and the time of placement in the ground.

Although in its working procedure the F.E.R.A. suggested the planting sizes of orna- (Continuing on page 150)

OUT OF EVERY DOLLAR SPENT FOR ROADSIDE IMPROVEMENT 90 CENTS OR MORE GOES TO LABOR



This chart, prepared by the United States Bureau of Public Roads, speaks for itself. With ninety cents out of every dollar spent for roadside improvement going to labor, communities may find in tree planting a quick solution to their relief problems.



EDITORIAL

George D. Pratt

THE influence of George D. Pratt, whose untimely death occurred on January 20, extended into many fields of public service and human welfare. In all those fields, his high-minded and unselfish interest will be keenly missed. The actual extent of his activities and benefactions in the interests of a fuller life for others will probably be known only to his immediate family because of the modesty which characterized his many acts. His life was one of broad service, marked by unostentatious leadership and quiet achievement which everywhere commanded the admiration and loyalty of those associated with him.

To the readers of *AMERICAN FORESTS*, Mr. Pratt will be best remembered for his public service as president of The American Forestry Association. Always interested in conservation, he made the Association one of his major interests for a continuous period of ten years and retired as its leader less than a year ago when illness compelled him to do so. To him the Association represented an opportunity to serve humanity in a large way by promoting the preservation of national heritages of forests, waters, wildlife and natural beauty. In these God-given resources, Mr. Pratt felt spiritual and human values more keenly than economic values. That phase of conservation touched his most responsive side, but it in no way lessened his deep and genuine interest in all activities of the Association. He believed in the Association with the same quiet and active sincerity that he believed in conservation, and to it he gave freely of his time and means that it might enlarge its services to others. That spirit was characteristic of his nature and made his administration as president stand out as the most constructive in the long history of the organization. Under his guidance, the Associa-

tion achieved a permanence and influence that will stand as a monument to his work in conservation.

Mr. Pratt's interest and activities in conservation were by no means confined to the forest. He was active in other groups, promoting the preservation of wildlife, the protection of National Parks, the development of American youth. He loved all outdoors—the trees, the primitive woods, the animals of the wild, the beauty of natural landscapes—and he spent much time in the open with gun or camera. More than twenty years ago he quietly but effectively put his hand to the task of preserving those natural resources which he felt contribute so greatly to an abundant American life. From conservation he sought nothing for himself. Personal publicity and advancement he shunned. Dominated by an unselfish desire to pass on to future generations the finer things of life, the spirit in which he served is best expressed by a quotation from Ruskin which he carried always with him and which he had printed and widely distributed:

"God has lent us the earth for our life. It is a great entail. It belongs as much to those who are to come after us as to us, and we have no right by anything we do or neglect, to involve them in any unnecessary penalties, or to deprive them of the benefit which was in our power to bequeath."

By Mr. Pratt's death, American conservation has lost a friend and leader who has enriched it by his own high character no less than by his material achievements. His companionship and leadership have lifted it to a higher plane of service. Memory of his rare combination of traits—genuineness, simplicity, modesty and unselfishness—will serve to keep it there.

The Purchase of Public Lands

IN HIS article on page 112 of this issue, Mr. Moore raises for critical consideration the Government's present policy of buying lands in the South for National Forests. His demand is pertinent and provocative—pertinent because large outlays of emergency funds are being used, and provocative because of the implications of some of the purchases.

The Government though the Forest Service and the National Forest Reservation Commission has recently bought in Texas, Louisiana, Mississippi, South Carolina and Flor-

ida a number of large tracts supporting merchantable stands of timber or advance second growth. Additional purchases of similar character, it is understood, are projected. It will not be contended that these lands need to be under public control to protect watersheds or to curb soil erosion. They include as part of the Coastal Plains extraordinarily fertile forest soils equaled only by soils of the Pacific Northwest in their capacity to produce commercial timber. They therefore represent the more promising areas for permanent forest management by private industry.

The governmental agencies concerned justify such purchases by the emergency need to create work for local populations through the Civilian Conservation Corps and otherwise. Yet it will be noted that lands of this class were purchased, or purchases projected, before national recovery policies were formulated. It therefore appears that the Government is launched upon a permanent policy that seems in direct conflict to the principle laid down in the recent report of the Land Planning Committee of the National Resources Board which holds that areas on which private enterprise appears to have the best chance to make a profit out of forestry should remain in private ownership. If the lands are not needed for watershed protection, scientific demonstration, or public recreation, but are best adapted to sustained yield operation by private initiative, why, it will be asked, should the Government shoulder the expense particularly when vast areas of more critical public concern are in need of protection?

There is need for thinking through on this vital question of public forest acquisition and its whole complex of land economics and social influence. It is not enough to resort to measures of expediency actuated by abnormal and temporary conditions. Mr. Silcox, Chief Forester, has very properly and continuously emphasized that forest policies must be reoriented to contribute lastingly to community stability and national economy. Considering the vast area of forest land involved, this dictates the orderly apportionment of definite functions among the Federal Government, the states and private industry. Neither government—federal or state—nor industry can fulfill their obligations to the public in the absence of a definite and dependable allocation of their respective responsibilities.

The ground work of apportionment has been well laid by a trinity of federal measures—the Weeks Law of 1911,

providing for the federal protection of watersheds of interstate streams; the Clarke-McNary Act of 1924, providing federal aid and cooperation with the states and industry in the control of forest fires, insect pests and tree diseases; and finally, the conservation article of the Lumber Code, approved by the President, whose primary purpose is to encourage sustained yield management of forest lands by private industry. To advance progress in this direction, the Code offers those individuals who develop sustained yield units special recognition in the form of production increases.

With these broad fields of constructive purpose and endeavor clearly formulated, why is the Government invading the most promising opportunities afforded industry to develop forestry—opportunities which the Government is exhorting industry to capitalize through the Lumber Code and otherwise? Does it mean that the Government, by acquiring the best timber growing lands of the nation as opportunity offers, is going into competition with industry in the growing and marketing of forest products? Whatever the intention, the uncertainty of the situation, if permitted to continue, must result in effective discouragement of both states and industry to assume their own responsibilities. In the interest of coordinated action, the suggestion is offered that the National Forest Reservation Commission invite representatives of the state forest services and the Lumber Code Authority to a thorough discussion of its programs in different regions before further commitments are made. This should result in a clear-cut pronouncement of policy which will permit the states and industry to proceed with confidence in the assumption of their essential parts in carrying out a national plan of forest land management.

Looking Ahead for the Elms

THROUGH the pages of this magazine, The American Forestry Association has had much to say about the American elm and its threatened extinction by the Dutch elm disease. It will continue to have much to say until the elms are freed from the menace. It has criticized Government bureaus for lack of foresight and leadership in coping with the disease in its incipient stages. It will continue to criticize where and when it believes criticism justified. The American people are in no temper to stand by and see the elm disappear from the American landscape.

The war on the Dutch elm disease must be a war to the finish and that finish a successful one. Like any war, it calls for money. Thanks to the energetic intervention of President Roosevelt, \$527,000 of emergency funds were made available last December to continue the fight on the disease. Thousands of diseased and suspected trees are now being destroyed. Authorities estimate that present funds will permit the removal of more than 150,000 trees, which may harbor the disease. Large as this number seems, adequate control of the disease will call for the removal of many additional thousands because the disease remains hidden within the tree tissues for five or six years before becoming apparent. This means that a continuous campaign must be kept up until every infected tree is disposed of.

Let no one therefore be lulled into the false security of thinking that present funds will save the American elm. They will finance the war of eradication only into April. After that, what of the future? Will the fight lapse until and if additional funds are made available? The present outlook offers no definite assurance that funds for continuous control operations will be available after May 1. The budget for the next fiscal year contains an item of only

\$261,156 for the work. This is to be immediately available upon the passage of the bill, but no one can say that the bill will have passed by the time present funds are exhausted. Furthermore, this amount will be largely absorbed for scientific investigations and technical leadership. A much larger sum will be needed from May on through the summer to continue the work of removing trees which warm weather reveal as infected with the disease. Spring is a critical time in the spread of the Dutch elm disease. With the swelling of the buds and the bursting of the leaves, thousands of little bark borers will emerge from infected trees to seek new homes and thus spread the disease. A halt in control operations in the spring or early summer, even though only for a month, might easily give the enemy an advantage that would lose the fight. Funds sufficient to meet the situation as it develops are imperative.

In a letter to the President, under date of February 14, Henry S. Graves, president of The American Forestry Association, urges that \$1,500,000 be allocated from emergency relief funds for the employment of men to be engaged in removing and destroying diseased and suspected elms. "On the basis of the current campaign," he wrote, "federal contributions of at least \$100,000 a month, supplemented by generous appropriations from the disease infected states, will be necessary during the next fifteen months. The crux of the battle is in adequate funds for complete removal of all infected and suspected elms during the coming spring and summer."

Citizens everywhere, it is believed, will not only support but will demand this allocation when they know that without more funds the fight to save the American elm will be a losing one.



YOUR CONQUEST OF THE WILDERNESS

May be Made With the Trail Riders of the National Forests

IF YOU are a healthy, normal individual, with healthy, normal inclinations, you have undoubtedly experienced the urge for conquest—perhaps not conquest of people, nor of governments, but of new horizons, of new lands, of little known country that forms the remaining wildernesses of the earth.

Few have the time, fewer still have the opportunity to realize this longing. The intricacies of planning, the training and knowledge so necessary in such a venture, expensive organization are far beyond the ken of most people. But not so with the Trail Riders of the National Forests, that group of wilderness lovers who have joined hands under the direction of The American Forestry Association to go forth each year to new conquests of the primitive, the wild back country, of America.

These riders, both men and women, and representing the highest type of outdoor loving Americans, go out each summer perfectly organized, their ventures soundly planned, and with The American Forestry Association as their guide. But more than that, they go at a cost well within the limits of the average summer vacation. For the Trail Riders, like its sponsoring Association, is operated on a non-commercial, non-profit basis, each rider paying his or her share of the actual cost of the expeditions. The costs for the three Trail Rider expeditions this summer cannot be definitely announced at this time, as they are determined only after all details of the trips have been arranged. None of them, however, will exceed \$200, all inclusive, from Chicago back to Chicago.

The first 1935 expedition will leave Chicago on July 6 for twelve glorious days in the country "back of beyond"—the rugged and little known Flathead and Sun River wildernesses of the Flathead and Lewis and Clark National

Forests, in Montana. Arriving in Missoula in the afternoon of July 8, the explorers will take to the trail early the following morning, to be lost to civilization until July 20. They will arrive back in Chicago on July 22.

The second group of riders will leave Chicago on July 28 for thirteen days in the wilds, sleeping beneath the stars, and viewing sights that few have viewed before them. They will arrive in Rock Springs, Wyoming, the night of July 29, starting out on the morning of July 30 for the mysterious Wind River wilderness, in the Wyoming National Forest, a hundred miles to the north—the high lake country of the famous Jim Bridger, a country which has remained unchanged since the days when covered wagons rumbled over the old Oregon Trail which traversed its foothills. Returning to Rock Springs on August 11, the riders will be in Chicago again on August 13.

The picturesque Gila wilderness, in the Gila National Forest, in New Mexico, will draw the third party of riders. This expedition will leave Chicago on August 18, arriving at Silver City on August 21. With only a few hours in Silver City, the riders will get under way for the rugged and romantic Gila wilderness, with its hidden cliff dwellings and colorful rock formations, not to return until August 30. This party will be back in Chicago on September 2.

So if you are a healthy, normal individual, either man or woman, let your conquest of the wilderness be with the Trail Riders of the National Forests this summer. Select whatever expedition you like, or all three for that matter, and everything will be arranged for you—railroad accommodations, hotels, the trail horse you favor.

Write The American Forestry Association for further details. And—as each party is limited to twenty-five riders—make your reservation, though tentative, now.

FROM OREGON'S JUNGFRAU



FOREST OFFICERS, AIDED BY RADIO, CHALLENGE MOUNT HOOD'S SULPHUROUS GASES IN HEROIC RESCUE ATTEMPT

By A. O. WAHA

Photographs by Dell Burkhart, of The Portland Oregonian

IN THE late afternoon of August 27, five University of Washington students were making their way leisurely down the slopes of Mt. Hood, the Jungfrau of Oregon, and the mecca of mountain climbers in the Pacific Northwest. They had conquered its snow capped peak, 11,225 feet skyward, and were in a joyous mood. Often they stopped to marvel over spectacular views; occasionally they detoured to explore interesting features, overlooked on their way up. All the while the extinct volcano was settling in the shadows of coming dusk.

At Crater Rock, a lava plug less than five hundred feet from the mountain's crown, Victor Von Norman, one of the party, stopped to ponder over the steam and sulphurous gasses that still issued from vents. The more he pondered, the more intrigued he became, until finally, with another member of the party, he set out to explore the treacherous crater. He climbed perhaps fifty feet down into the yawning crevasse between the rock and the glacier, and here, apparently affected by fumes,

he faltered, reeled, and before his fellow hikers could reach him, tumbled into the crater two hundred feet below.

Von Norman's horror-stricken companions lost little time in notifying two men who were working on a stone hospice near Crater Rock. One of these, Aunie Faubion, a packer for the Forest Service, immediately notified the District Ranger Station at Zig Zag, twenty miles away. He then entered the crater and made several unsuccessful attempts to reach the body. The fumes were too much for him; but he did descend far enough to determine that Von Norman was beyond hope of resuscitation.

From this point H. C. Hiatt, Forest Service ranger at Zig Zag, took charge of rescue operations. Paul Williams, Lone Fir Rock forest lookout, and Ralph Olsen, patrolman, were immediately sent up the mountain with an army gas mask. Later, Gary Leach, a guide from Government Camp, colorful starting place for mountain climbs, was also dispatched to the scene with additional gas masks and with a Forest Service



The little portable radio proved itself invaluable during the whole critical period of the rescue—keeping the outside world in touch and making it possible to rush equipment needed on the mountain.



A rescuer cheats death—Garry Leach, who had entered the crater in a vain attempt to reach Von Norman before it was too late, almost lost his life. His oxygen cut off, his companions pulled him from the crater just in time.



It was hard work on a bad trail, as the rescue workers carried the oxygen tanks and other apparatus up the mountain.

Type "S" portable transmitting and receiving radio set.

The stand-by Type "T" radio at the Summit Forest Guard Station, 6,000 feet below Crater Rock, was turned on at the time Leach left timber-line for the tedious snow climb to Crater Rock. Shortly after midnight the first message was received from the scene of the accident, with the information that the gas masks would not work because of lack of oxygen in the bottom of the crevasse. Paul Williams had already made several attempts to reach the body but had been repulsed by the sulphurous fumes.

The next step was to obtain oxygen tanks and helmets. These were rushed out from Portland by

three city firemen in a first-aid car. They were speeded up the mountain road to timberline, there to be loaded on a Forest Service pack train for the weary four mile trek up the snowfields to the scene of the accident. They left timberline at 7 a. m. and (Continuing on page 150)



Right—Members of the rescue party are seen hauling the body of Victor F. Von Norman over the edge, as the crater yields up its victim. Two others were overcome by the sulphurous fumes during the rescue.



Left—A sure-footed horse carries the tragic burden on the return journey down the mountainside.

ILLICIT TRAFFICKING IN BEAVER

BY CALVIN RUTSTAIN

PART II

THIS plundering of warden camps by outlaws added a new complication to the illicit trafficking in beaver. Wardens who held their pride in high esteem were reluctant to report the loss of their equipment to their superiors; and consequently, it resolved itself into a double effort on the part of the wardens to apprehend those whom they suspected. Revenge naturally crept in; and although it spurred the wardens to a more intense pursuit of evidence, it resulted in grudges and often led to pitched fights, which did not help matters from the administrative point of view.

The two wardens who were left fifty miles from the exterior with no equipment and no food except the moose meat and salt were for the time in no position to take up the trail of the three brothers. A rush was made, however, for the outlaw camp; but as expected, the occupants had fled. The following evening the wardens reached a ranger station on the upper chain of lakes and there managed to procure sufficient equipment for the trip back to the settlement.

Then started one of the most persistent man hunts in the history of the beaver traffic. The two victimized wardens re-equipped themselves, and with new vigor and great determination, took up the trail again.

The early northern winter was already setting in, and the officers faced severe hardships. It was necessary for them to make winter camps with such equipment as could be carried on their backs, something which is apt to test the mettle of any woodsman. The outlaws, on the other hand, were at an advantage. Once they had taken up a position, they could build such shelters as would provide ample comfort. A moose was usually killed for meat, and was frequently combined with the flesh of beaver.

It was the usual procedure with wardens to patrol those sections which were apt to give a high yield of beaver pelts; and it was, therefore, essentially not an uncertain undertaking to determine where the outlaws were operating. The much sought trio were not likely to be operating on any but the most fertile beaver



A typical shelter in the Northwoods beaver country.

AMERICAN FORESTS

streams. Too, the major area of their operations had been known for some time among the natives, a fact which favored the wardens.

Yet, despite this the two officers spent three gruelling weeks of physical hardship without discovering their camp or scene of operations. Suffering exposure, tugging at packs through swamps and over rocky palisades, wading streams, bogged and mired countless times, they finally took stock and considered that they had patrolled the richest beaver country in their jurisdiction without a shadow of success. The established theory that the three brothers were proof against apprehension, due to their phenomenal capacity for wilderness travel, seemed to hold. By some trick they had not only managed to elude the wardens, but had disappeared without trace.

Yet, the wardens knew, somewhere in the very heart of that frost ridden country, in cheerful defiance of the laws of nature as well as of man, the outlaws had their camp.

Beaver ponds by now were frozen to crystal hardness. Lakes were leveled to receive the snows that whirled in ambling vortexes from one drift to another. The mercury crept close to the bulb. To live out-of-doors demanded heavy sleeping bags and all-night fires. And while it was not the habit of law to give up the search because of adversities, these conditions had the effect of slowing down activities to such a degree that the wardens returned to headquarters to plan further modes of procedure.

Failure to find the outlaws on the second venture resulted in much criticism. In political centers it became a major issue in the campaign for a change of administration. On the west side of the territory known as the Arrowhead Country, several other groups of outlaws were evading the wardens with almost equal facility, and so the issue expanded.

Late one afternoon news came that the outlaw trio had



A cabin near Lake Superior heavily drifted with snow, similar to the one occupied by the outlaws.

arrived in Duluth, had made a liberal deposit of money in one of the banks—the proceeds of a large sale of furs—and were en route for their cabin near Lake Superior. Information later disclosed that, while the wardens were suffering the onslaught of bad weather and hard travel, the outlaws were reaping a rich harvest of pelts in the Province of Ontario, in Canada. They had thoughtfully anticipated the proposed diligent effort on the part of the wardens. For several months there was a lull in activities generally. No tangible knowledge was had of the outlaw trio. The cabin near Lake Superior was drifted with snow in utter silence. Rumors passed from cabin to cabin that they had gone to some distant city; others were circulated that they were again operating in Canada.

But when the snow began to break in the spring, a valuable piece of news greeted the wardens. Word came from a licensed trapper that the outlaws were operating in the upper country not far from the Canadian boundary—on the American side of the line. Canadian officers were notified and every avenue leading to that country was blocked. On the American side a similar cordon was established. Officials came from the state office to take part in what seemed now a perfect opportunity to apprehend the outlaws.

The mid-spring season made travel in the wilderness almost prohibitive. Lakes still held ice below the surface to thwart canoe travel; rivers and streams rushed with a fury and flooded the countryside; swamps were veritable lakes of conglomerate water, ice and snow; nature was setting up a challenge that exceeded anything heretofore remembered. Nevertheless, the outlaws chose to make another strike in the beaver country.

The comprehensive plan of the state was to apprehend the outlaws, if possible, in the possession of a large number of beaver skins. A *prima facie* case of some import was hoped for that might end the nefarious career of these outlaws. It was therefore not entirely a matter of difficult travel which moved the officers to throw a cordon of (Continuing on page 149)

Snow lay seventy inches on the level in the Independence River region.



FIELD AND FOREST FOR BOYS AND GIRLS

WHY DO BIRDS MIGRATE?

By JOHN HARVEY FURBAY

Illustrated by William D. Vennard

MANY years ago, people thought that when winter came the birds hid themselves in caves, hollow trees, and such places until warm weather returned in the spring. Swallows, for some strange reason, were thought to bury themselves over winter at the bottom of lakes and ponds.

We know now, of course, that birds do not spend the winter in this way; that most of the birds which are around us in the summer migrate or travel to more southern states during the winter, and then return early the following spring.

But all birds do not migrate. For example, the Great Horned Owl, and Bob-white usually stay with us all winter. Certain other birds do not go south unless the weather becomes severe. Many of the birds which we think remain with us over winter are not the same ones that were with us during the summer, but are birds of the same species which have migrated to us from regions farther north.

Our Bluebirds, Cardinals, Robins, Doves, Kingfishers, and some other hardy birds often travel no farther south than Kentucky or Tennessee for the winter.

Our Wrens, Bobolinks, and Blackbirds proceed to the Atlantic coast in the fall. Our Orioles go to Panama; our Hummingbirds to Brazil; many of our Kingbirds to the West Indies and Bolivia; most of our Warblers to Central America; and most of the Thrushes to Peru in South America.

Exactly where the Swallows spend the winter is their own secret. Many students of birds believe that they

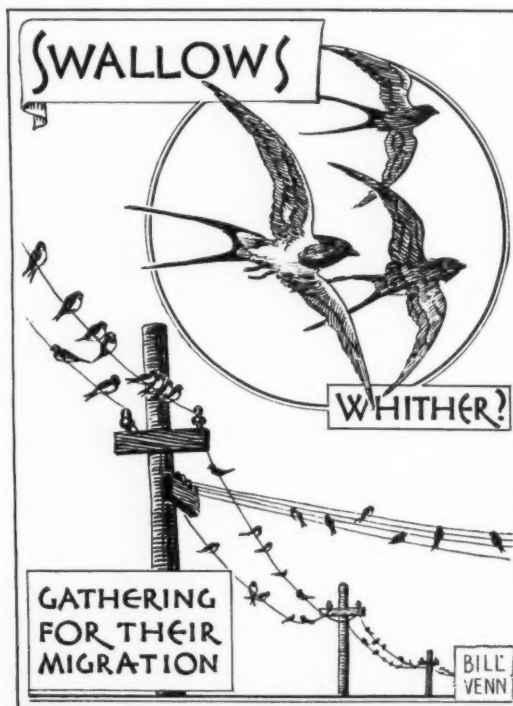
go to some island near South America. So far, however, no one has definitely located their winter home. They start going southward in July—which is earlier than most other birds migrate.

It is evident that birds know when it is time to migrate, and when to return to us. They also know where they are going; for certain birds will return season after season to the same vine on the veranda of a home, arriving on the same day of the month each year. This fact has been established and checked on, year after year, by placing numbered bands on birds' legs.

It is nothing less than marvelous that they are able to know when to travel, where to go, and how to get there and return. Gene Stratton Porter, nature-student and writer, once said, "What determines the precise minute of their starting to come to us or to leave us, or how they follow their trackless path high in air across seas and continents mostly under cover of darkness, we do not know."

One fact seems obvious: that some force or influence takes possession of their actions at these times and that they cannot help doing what they do. Some call this "instinct," and others call it "sub-conscious mind."

One of the most remarkable of the migrating birds is the Golden Plover. The Plovers spend the summer, from June to August, in the barren grounds above the Arctic Circle. In August, they fly to Labrador where they fatten themselves on crowberry for a few weeks. Then they go to the coast of Nova Scotia, and from there they set



out over about twenty-five hundred miles of ocean, for South America. After a rest of three or four weeks, they move farther South, into southern Brazil and Argentina, where they remain from September to March, and then disappear. They are seldom seen again until they re-appear the first week of June at their former feeding grounds in the Arctic Circle.

The circuit which these Plovers follow is approximately twenty thousand miles in length, and is repeated every year on schedule time. If you wish to do something very interesting, make a map of North and South America, and on it chart the course of the route followed by these Plovers.

Various theories have been advanced to explain the amazing fact that birds are able to follow the same course for thousands of miles year after year. Probably the chief of these theories is that birds follow "landmarks." But this seems improbable for several reasons:

First, because of the great height at which migrating birds frequently fly. Often have I heard the distant cries of birds passing over my head, and on looking for them found them so high I could scarcely see their forms. Astronomers have frequently reported seeing migrating birds at great heights. Mr. W. E. Scott reported that on a clear night in October, 1880, in Princeton, New Jersey, while looking through a telescope, he saw large numbers of birds crossing the face of the moon, flying between one and two miles above the earth. Among these he positively identified Warblers, Finches, Blackbirds, and Woodpeckers. Other similar records have been made. If birds fly at such great heights, it seems improbable that they can see any "landmarks" on the earth below them.

Second, this theory is improbable because a great part of migration is done at night. You have all heard flocks of birds passing over your homes in the darkest nights going southward. They certainly are not seeing any "landmarks." Then, too, they seem to prefer cloudy nights to clear ones for traveling.

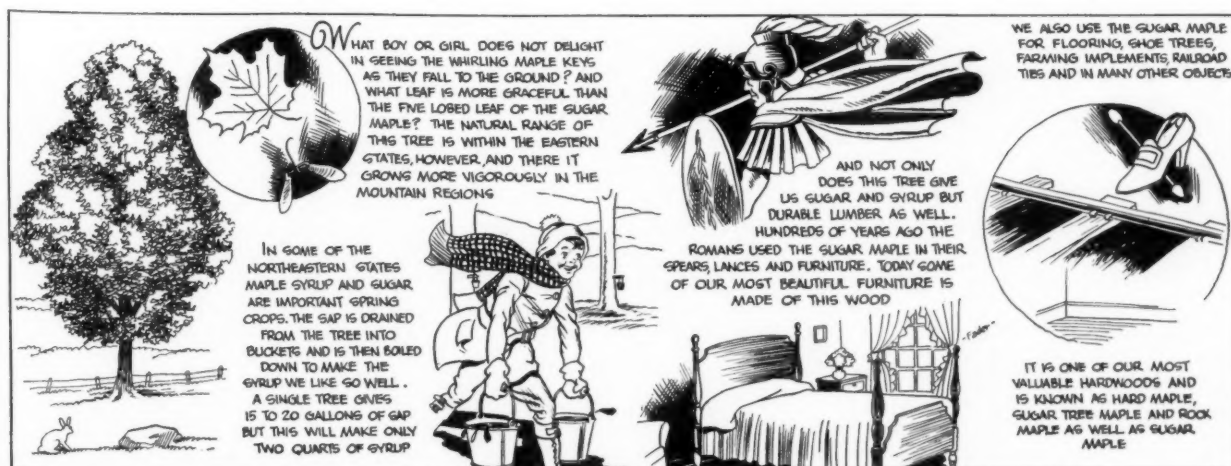
Finally, in opposition to the "landmark" theory, I wish to quote the greatest authority on migrating birds, Herr Gatke of Heligoland. After spending fifty years of uninterrupted study of bird migration, he states in his records, that the young and old birds migrate separately, generally at different times, and by different routes. If this is true, then it wipes out the old theory that the old birds travel by landmarks, and that they teach these landmarks to their young.

The speed of migrating birds has been variously estimated. Airplanes and stop watches have been used to gather information on this point. The slower birds fly about twenty miles an hour, and the fastest birds recorded with accuracy are two species of Swifts in India. Their speed was found by E. C. Stuart-Baker to be nearly two hundred miles an hour across a two-mile course.

In closing, let me repeat that although we do not know entirely why birds migrate, or how, it is evident that they are controlled by an instinct which is very strong; and that they possess a peculiar sense of direction as accurate as a compass—a sense which human beings do not manifest. Together, these forces are effective in shifting vast multitudes of birds back and forth across thousands of miles of land and water at definite times year after year, —a mysterious movement prompting again and again the question—"why do birds migrate?"

TREES AND THEIR USES

No. 3 - - SUGAR MAPLE



LOBLOLLY PINE

Pinus taeda. Linnaeus

LOBLOLLY pine is one of four important southern yellow pines. Frequently known as "old field pine," it extends over the coastal plain and lower Piedmont sections from southern Delaware, south and west into the river valleys of eastern Texas and southern Arkansas. It often grows in moist depressions locally called "loblollies,"—



Loblolly pine usually grows on flat moist land and develops a clean, straight trunk and relatively broad open crown.

hence the name, loblolly pine. The tall, straight, cinnamon-colored trunk supports a relatively short, open, spreading crown. Trees have attained a height of 170 feet with a breast-high diameter of six feet while trees ninety to 120 feet high and three to four feet in diameter are not uncommon. The trunk may be sixty to eighty feet to the first limb. Trees occasionally reach an age of 150 years, although few trees live over one hundred years. The lower limbs of the crown spread horizontally and droop at the outer ends while those in the upper portions of the tree are more erect.

The red-brown to cinnamon-colored bark is deeply furrowed into broad, flat oblong plates made up of many thin, closely pressed scales, and is usually from three-quarters of an inch to one and one-half inches thick. The slender brown twigs have a tinge of yellow and may be distinguished from other three-needled pines by a fine bloom or fuzz during their first season. The pale green needles are five to nine inches long, are borne in threes, held together at the base by a fibrous sheathe, and stay on the twig for three or four years. They are slender, stiff, slightly twisted and tipped with a rigid sharp point. The buds are without resin.

From the middle of March to the first of April yellow pollen-bearing staminate flowers appear crowded at the base of the lower twigs, while higher up in the trees are single or occasionally clustered yellow ovulate flowers. At the end of the second season these mature into light reddish-brown, broad, more or less egg-shaped cones three to six inches long. Each woody cone scale is tipped with a stout triangular spine.

Blackish winged seeds are discharged from October to late November of the second season, but the cones hang on the trees for months before they break off leaving a short stock. The seeds are carried considerable distances by the wind and usually germinate the following spring. They grow best on exposed mineral soil such as abandoned agricultural land. Accordingly, the tree is called "old field pine." Open grown trees may seed abundantly when twenty to thirty years old and the seeds are highly fertile. Loblolly pine is essentially moisture-loving and reaches its best growth where the water table is close to the surface of the ground, or where the soil is able to hold moisture during the growing season.

The light brown, coarse-grained wood is resinous and, while lighter and softer than the wood of longleaf pine, is nearly as strong. It weighs about thirty-four to thirty-eight pounds to the cubic foot when air-dry and is used for construction, interior finish, bridges, freight cars, barrel shoos, boxes, crating and tobacco hogsheads. When treated with creosote to prevent decay, it is used for railroad ties and piling. More recently it has been successfully used in the manufacture of paper. While no separate figures are available, loblolly is one of the most important of the four southern pines and makes a considerable part of the annual cut of "yellow pine," which totaled 3,068,898,000 board feet in 1932 and over 7,000,000,000 feet in 1930. The estimated stand of all southern yellow pines in 1932 was 118,132,000,000 board feet. Wounds exude pitch or "gum," but this tree does not produce the gum in sufficient quantities to be a source of "naval stores."

Because loblolly pine has a thick bark and grows largely on low sites or in damp soils it is relatively

resistant to fire. Heavy losses frequently occur, however, on higher land and in no case is it benefited by fire. It is also subject to attacks from the ravages of the Pine Sawyer and the Southern Pine Bark Beetle, and a bud moth which destroys the terminal shoots of young pines. The first two insects are small beetles which bore in the bark and cambium. Insect attacks may be controlled by cutting all infested trees as soon as the foliage begins to brown. While the logs may be used, the bark and branches should be burned as quickly as possible. Similarly, when trees are cut from May to October the logs should be peeled and the bark burned along with any limbs or fresh woody trash.

Loblolly pine grows faster over long periods than any other southern pine. In fairly open stands, with ample space for the branches and roots of each tree to spread, they may attain diameters of nine to fourteen inches and heights of forty-seven to seventy-five feet in thirty years, depending upon the character of the soil. Where natural seeding fails, loblolly pine seedlings may be planted about six feet apart. Thinnings may be necessary as the trees grow.

A well stocked acre may produce from 300 to nearly 1,000 board feet of saw timber yearly. The production depends, as with other crops, upon the character of the soil, and the protection from fire and pests. Individual stands have been measured that had averaged 1,800 board feet a year on each acre for thirty-two years. After seventy years on fair to good growing sites 40,000 to 50,000 board feet of timber is a reasonable yield and stands may produce an income from thinning within thirty years.



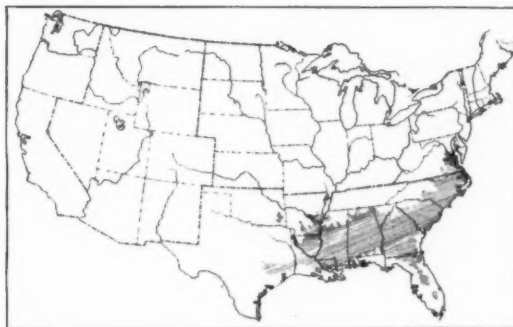
A crowded cluster of yellow pollen-bearing blossoms and the early spring growth of a young loblolly pine.



Sharp triangular spines are on each scale of the three to six inch reddish-brown cones.



Deep furrows break the cinnamon-red bark into flat, oblong, scaly plates.



Natural range of loblolly pine.

MUST THE ISLE ROYALE MOOSE STARVE?

(Continued from page 107)

boat, made her first trip out the conservation department sent Hickie and Dr. Don Coburn, an animal pathologist, to begin an investigation.

They spent several weeks on the island. Hickie went back last September to complete the investigation and I went along. Here, briefly is the situation as we found it.

The herd had suffered a considerable thinning as the result of starvation last winter. The carcasses or skeletons of forty-two moose were found, but since searching for a dead moose in the tangled wilderness of Isle Royale is much like looking for the proverbial needle in the haystack, it is obvious that this figure represents no great share of the actual loss.

The calf crop last summer was very small. Few or no calves were seen by summer visitors where many usually were reported. Winter browse was virtually gone. Cover the island with four or five feet of snow, not an unusual fall for an Isle Royale winter, and literally no feed at all will remain within reach of the moose.

Balsam trees had been stripped as high up as a moose could reach. We measured browsings eleven feet above the ground. The tops of many young balsams had been broken off by the hungry animals, often at a point where the trunk was two inches in diameter.

Willow, poplar, cherry and other favorite food trees had been cropped bare to the snowline. Larger poplar trees had been stripped of their bark in many sections and mountain ash was badly girdled and broken down wherever the moose could reach it.

I covered miles of the island with Hickie, following moose trails through the untraveled interior, visiting wallows, lakes and natural licks, and it required no trained eye to visualize the plight that must confront the moose with the coming of winter, unless an abnormally light snowfall happened to leave more than the usual amount of low shrubs and branches available.

Hickie summed up his findings by saying there was good reason to believe that if left to themselves, without human intervention, the moose herd faced complete extinction, perhaps within the next year or two.

Confronted with this situation the Michigan Conservation Department had available a number of remedies. It could thin the herd by authorizing controlled shooting by state employees. It could take steps looking toward a limited open season, but legal barriers made that course impossible for at least another year, and there was grave likelihood that by that time starvation would complete the job.

It could undertake the capture of a number of the moose in live traps or corrals of some kind, for transportation to the Michigan mainland where plenty of food and unlimited range appeared to be available, and where the animals might thrive and spread and provide legal hunting at some future date. It appeared unlikely, however, that this work could be done rapidly enough to accomplish the necessary thinning of the island herd.

It could try introducing some large predators, perhaps cougars or bears onto the island in the hope they would keep the moose in check. This method carried the likelihood of violent public objection, however.

It could try feeding the moose, although nobody knew for sure just what a hungry moose would eat, and with a great herd scattered over the trackless interior of Isle Royale the problem of distributing feed loomed as a huge one.

Michigan game officials scratched their heads and lay awake nights over the problem from September, when

Hickie started his fall survey, until mid-November. It was certain that something had to be done. Public sentiment and decent game administration demanded that.

Sportsmen's clubs in the northern part of the state wanted a trapping experiment tried, in connection with whatever other relief methods might be decided on. They were casting an eye ahead to possible open moose seasons in the future.

Finally the game officials made up their minds. They decided to send Hickie with one assistant, Ellsworth St. Germain, to the island for the winter to conduct an experiment in big game management that should combine two or three of the proposed remedies. The two men would be assisted by fishermen wintering on the island.

Hickie and St. Germain sailed for Isle Royale in November. They are headquartering at Holger Johnson's place. Holger's two daughters, Violet and Vivian—Vi and Vee to short-wave operators—operate the amateur radio that brought out word of the moose losses last year. That radio has been the only link between the State party and the outside world this winter, and will continue so until late April or early May, when navigation reopens.

The major objectives of Hickie's party, as I have said, has been the cutting of a limited supply of balsam, birch and other winter browse, in various sections of the island, enough to bring a small herd through safely. It will be necessary, State conservation officials reason, to repeat this for perhaps two or three years.

By the end of that time in all likelihood nature will have reduced the herd—or some more humane means will have been resorted to—to a point where increasing natural winter food will meet the requirements.

In addition to the cutting, Hickie's men have undertaken a winter census to determine the size of the herd with greater accuracy than has heretofore been attempted. They also will examine any moose that may die for signs of disease or parasites, so far not found to any serious extent.

And finally they have built and are operating one or two live-traps, to learn whether the moose can be successfully taken, held in a corral and shipped to the mainland for release there next spring.

At this writing, the weekly radio reports have told of the capture of three moose in the trap. The first one, a cow, escaped later when the top of the corral gave way. The next two were bulls, and they apparently are being held successfully, although Hickie radioed of the first: "He does not take kindly to confinement or to his captors, remaining truculent and showing his dislike of the latter in no uncertain terms."

The whole task assigned Hickie and St. Germain is an experiment, as Michigan game officials frankly admit. But at least it is better than doing nothing, and if it succeeds even reasonably well it will save the moose herd from complete extinction.

As for what is due to happen there in the wilderness of the great island before the spring sun lays bare the rocky ridges, as to what reports, encouraging or gloomy, the radio may send clicking across the ice fields of Lake Superior, that will depend to a great extent on the depth of the snow and the harshness of the weather between the time this is written and the time you read it.

Only a mild February and March, it would seem, can avert a serious wildlife tragedy. And tonight the eastern half of the continent lies blanketed under the drifts of the worst blizzard in many years. The outlook is not rosy for the Isle Royale moose herd, despite the efforts of Michigan and Hickie and his handful of helpers.

AROUND THE STATES

WITH

THE AMERICAN FORESTRY ASSOCIATION



Ickes Outlines Grazing Policy Following President's Withdrawal of Public Domain from Entry

Following President Roosevelt's executive orders of November 26, 1934, and February 9, withdrawing all remaining public lands from entry, Secretary of the Interior Harold L. Ickes announced the new grazing policy, applicable under the Taylor Grazing Act to 80,000,000 acres of the Public Domain.

In an address at Denver, Colorado, on February 12, Secretary Ickes declared that from seventy-five to one hundred grazing districts, each available to from 1,500 to 2,000 users, will be organized. A program of self-government to be directed by committees of livestock owners in cooperation with officials of the newly organized Grazing Service, under Director Farrington R. Carpenter, was envisioned by the Secretary.

"The free and unrestricted use of the public range must give way to a policy of prudent use of that same range for the welfare of the whole country," he said. "This new policy, as expressed in the Taylor Grazing Act, is primarily in the interest of those whose livelihood depends upon the maintenance of the public range—the cattlemen and sheepmen of America."

The President's order of November 26, 1934, withdrew the public land in the western states from settlement, location, sale, or entry. This is supplemented by the more recent order affecting about 1,200,000 acres scattered in twelve other States. Together they prepare the way for the extension to the entire 165,695,000 acres of Public Domain of the provisions of the Taylor Grazing Act of June 28, 1934. Such a ban on further homesteading was recommended by the National Resources Board, of which Secretary Ickes is chairman.

Commenting on the executive orders, which intimately affect the twelve western states, the President said they were "pending determination of the most useful purposes to which they may be put in furtherance of the land program and conservation and development of natural resources."

He added that this land, not suited to profitable growing of crops, was destined for the conservation and development of forests, soil and other natural resources, the creating of grazing districts and the establishment of game preserves and bird refuges.

Although the Interior Department is now selecting 80,000,000 acres of grazing land as authorized in the Taylor Act, Chairman DeRouen, of the House Public Lands Committee, has introduced a bill (H. R. 3019) to extend it to the remaining areas suitable for livestock.

Outlining the manner in which the Act will be administered, Secretary Ickes said that the individual users of each grazing district, subject to a policy to be declared by the Department of the Interior, will elect advisory com-

mittees and the final determination of range carrying capacities as well as for directing improvements and range rehabilitation work."

Grazing privileges will be apportioned on the principle of aiding in the "proper use" of land or water owned or controlled by each applicant. "For example," explained the Secretary, "a man may file an application for range sufficient to graze one hundred head of cattle or 500 head of sheep, or some multiple of these numbers, for a given period of months. If he owns or controls property sufficient to support that number of stock for the remaining months of the year he will be given preferential consideration. Where the range is inadequate to take care of all such preferences, it must be apportioned on a pro rata basis, with special consideration given to small operators. Where water rights control the use of the range, the owner of such rights must be given a preference rating depending upon local conditions and the customary range practices of the locality."

"The whole question of fees will be experimental," he said. "I believe that fees should be on a sliding scale varying with the earning capacity of the land as measured by the market value of the livestock grazed upon it. Fees should not be so low as to arouse the envy of those not entitled to public range rights or as to subject the permittees to a charge of receiving a Government subsidy. * * * We will approach the matter with an open mind and consider it from the standpoint alike of the public interest and the welfare of the stockmen."

The Secretary's address, directed to officials of the western states, placed upon the grazing interests the blame for the present deplorable conditions of the range. "If you continue to destroy the range by overgrazing, you are not only depriving your cattle and your sheep of food, you are causing year after year an ever-diminishing supply of water, which is the very life blood of this section of the country. * * * We are learning that if the sensitive balance normally maintained by nature is disturbed by man, it is man who will be called upon to pay the cost."



"FOR OUTSTANDING ACHIEVEMENT IN FORESTRY"

President Franklin D. Roosevelt being presented with the Schlich Forestry Medal on January 28, by H. H. Chapman, President of the Society of American Foresters. In accepting the medal the President pictured a "new awakening to the importance of the forests to the country and if you foresters remain true to your ideals, the country may confidently trust its most precious heritage to your safe keeping." With Mr. Chapman are (center) Earle H. Clapp, United States Forest Service, and Franklin W. Reed, Secretary of the Society.

mittees in a ratio of one committeeman to each 100 to 150 stockmen.

"These committees," he continued, "will serve as boards of arbitration to pass upon all matters involving the internal affairs of the districts. They will be furnished with the reports on land classifications showing proper range carrying capacities and with records of applications for grazing permits. With this information, aided by counsel and advice of the Grazing Division, they will propose an equitable apportionment of the available range privileges within each district. * * * The Grazing Service will retain responsibility for the enforcement of the rules and regulations

30,000 FOREST RANGERS Can't Be Wrong!

You can ask for no better recommendation for your sleeping bag than the fact that during the past three years the U. S. Forest Service has purchased over 30,000 Forest Ranger Sleeping Bags from us. You get this same sleeping bag—up to U. S. F. S. specifications—when you order a Forest Ranger.



America's Most Popular Sleeping Bag!

There are more Forest Rangers in regular use in the U. S. than any other make of sleeping bag. Only because we standardize on one model, buying best materials in large quantities and saving on manufacturing, can we offer this quality sleeping bag at these low prices. A light-weight, quality sleeping bag that has stood all tests—the Forest Ranger is superior to any other sleeping bag in its price class.

With shoulder carrying straps **\$15** \$14 without straps



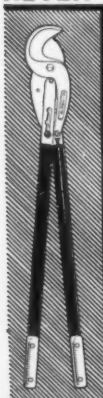
SEATTLE TENT & AWNING CO., Seattle, Wn.

Please send me descriptive folder "C"

Name _____
Address _____
Dealer's Name _____



NEVER MIND THE STONES



Just slip the No. 3 Forester around this two-inch trunk and cut—quickly, easily, close to ground, and leave a flat top stump. The greatest tool ever invented for brush cutting, timber clearing, roadside clearing, etc. Actually cuts 2" standing green wood—on the tree or on the ground. 34 inches long, gives good reach. Has patented slide shift power slot giving amazing multiplication of cutting pressure. Smaller sizes for pruning, cut clean and do not crush or strip bark. Tempered steel jaws stay sharp.

No. 3—cuts 2" diameter green wood.....\$7.00
No. 2—cuts 1 1/2" diameter green wood.....5.50
No. 1—cuts 1 3/16" diameter green wood.....4.25

If your hardware dealer does not carry Porter Foresters send your order direct to us. We will fill it post paid. Please mention dealer's name. Write for circular.

H.K. PORTER, INC., EVERETT, MASS.
*** The Bolt Clipper People ***

AMERICAN GAME CONFERENCE LEAVES DUCK ISSUE WITH DARLING

Delegates attending the twenty-first American Game Conference in New York, January 21-23, inclusive, left with J. N. Darling, Chief of the Biological Survey, the all important issue of what action is necessary to meet the threatening extermination of the wild duck. After discussing the situation at length and dividing over the question as to whether or not there should be a year-long closed season, the conference adopted a resolution approving the efforts of the present Chief of the United States Biological Survey and pledging "its utmost confidence and support of such regulations as may be recommended by him for the shooting of wild waterfowl during the 1935 season."

Following the adoption of this resolution, the conference voted down a resolution offered by John H. Baker, Executive Director of the National Association of Audubon Societies, to put the conference on record as favoring a closed season on all migratory waterfowl for one year beginning September 1935 and with adequate assignment of federal enforcement personnel to make such closing effective. Mr. Baker's resolution was lost by a vote of thirty-eight to twenty-two.

Mr. Darling, Chief of the Biological Survey, in a forceful and graphic address won the confidence and enthusiasm of the delegates by his fighting attitude for the salvation of the wild ducks. He left no doubt that as Director of the Biological Survey he would do what the facts indicate is best for the ducks regardless of the views or actions of any individuals or groups. "As to the ducks," declared Mr. Darling, "I want to divest myself of any suspicion that I think I know all about them. No one does. The amazing thing to me is that with a \$500,000,000 industry to maintain no one should have started long ago to put the duck business on a factual basis. No one knows whether we kill twelve million and hatch eleven million a year or whether we kill twenty-four million and hatch ten million. That obviously is the first thing to determine in looking to the future of hunting of migratory waterfowl."

"This year the Biological Survey has set its hand to that job as intensively as our constricted budget would allow. Beginning with the spring migration last year the ablest observers on the staff, plus such competent volunteers as were available, devoted all their time to determining the conditions and duck population in the nesting areas. Intensive observations were made on all the flyways during the fall migration just passed. *** The spring flight will be closely watched and the 1935 nesting conditions again observed. On the tabulated results of these observations the Biological Survey will make its recommendations to the Secretary of Agriculture and the President for next year's migratory waterfowl hunting regulations. The first consideration will be the preservation of a safe margin of population among the ducks."

"There are many things to consider beside the thought of a peremptory closing of the season. I am not going to be rushed into any conclusion. I am going to do a square job. I intend to put this duck business on a book-keeping basis, with stock on hand governing the extent of consumption to be permitted."

"One of our big problems is enforcement. With the whole United States to patrol, the Biological Survey has had one-third as many men as New York has traffic cops on Broadway. With a twenty-seven per cent cut in the Biological Survey budget, we must increase our vigilance and set up the national book-keeping on migratory waterfowl."

"Ninety per cent of the reports are that

the ducks are in a bad way. That fact seems well established. Premonitions of this crisis went unheeded in the middle twenties. In 1931 we had a thirty-day season. In 1932 the protests of sportsmen resulted in a return to the sixty-day season, which was repeated in 1933. The winter of 1933 was more destructive than anyone at the time realized.

"The destructive winter was followed by an unprecedented drought which sterilized the duck nesting and breeding areas as far north as Winnipeg."

"The fall hunting season on ducks was so bad in many regions that consternation seized the sportsmen in many broad areas."

"Emergency funds, which have been secured by sometimes disagreeable measures are being spent in the hereditary nesting grounds on a program of restoration. Of the estimated 17,000,000 acres of former breeding grounds drained and diverted to unprofitable agriculture we hope to put 600,000 acres back during the year. It is a most thrilling and practical program. But bear in mind that 600,000 acres will not be fully operative unless we have nesting ducks to occupy them."

"I hope it is but the beginning and that it will so demonstrate the practicability of this method of attacking the duck shortage that Federal funds may be found to carry on the program from year to year until we have a dependable supply."

Mr. H. L. Lloyd, chairman of the conference and Supervisor of Wildlife Protection for the Dominion of Canada, reviewed waterfowl conditions in Canada. Fall flights, he declared, showed that certain species heretofore thought to be maintaining themselves, are falling off and that breeding stock must be conserved. Among those who made a plea for a year-long closed season was Congressman William Berlin of Pennsylvania, who has introduced in Congress a bill to close the hunting season for a year.

Although the duck issue was the most urgent and critical issue before the conference, many other phases of wildlife conservation were discussed. Among them the recent regulation of Secretary Wallace asserting the Government's right to manage wildlife resources on the National Forests. This regulation was explained and defended by F. A. Silcox, Chief of the United States Forest Service, who declared that the Department does not plan to take over the management of wildlife provided its conservation will be effectively brought about by state agencies. Opposition to the Government's asserted right of control of wildlife was expressed by a number of state game departments. But a resolution reported by the resolutions committee, declaring that the Secretary's regulation transgresses the commonly accepted legal view of the ownership of wildlife within the states and that the Government should not attempt to apply the regulation except by and with the consent of the state, was voted down by the conference.

Among the resolutions which the conference endorsed were the following: a federal control plan for the correction and abatement of stream pollution, a study by the Department of Agriculture of insects destructive of wildlife, appropriation by Congress of sufficient funds for the Biological Survey to provide adequate enforcement of laws and regulations relating to migratory birds, opposition to indiscriminate drainage without due consideration to all important wildlife species, and control of all renewable resources of the country by a single governmental agency headed by a man familiar with the facts and problems involved.

**VOLUNTEERS FIGHT
BLAZING BRUSH**

Firemen Use "Indian
Pump" Apparatus in
Battle With Blaze.

Eight
men wearing "Indian pumps" con-
trivances strapped on their backs
from which a spray is pumped by
hand, concentrated on the point
where the flames were threatening
the woods, and after a stiff fight
had the fire under control.



COMBINATION BRASS
NOZZLE FOR 50 FOOT
STREAM OR LONG
COARSE SPRAY

HEAVY CAST BRASS.
QUICK OPENING
WATER TIGHT FILL-
ER CAP WITH RE-
MOVABLE BRASS
STRAINER. CAP HAS
INSIDE CHAIN TO
PREVENT LOSING.

COMBINATION
BRASS HANDLE
FOR CARRYING
TANK AND FOR
HOLDING PUMP

EXTRA HEAVY
TANK HAS
SOLID BRASS
BOTTOM.
ALL JOINTS
LOCKED AND
SOLDERED.
BUILT
STRONG.

PATENTED

FORM-FITTING. VENTILATED TANK GIVES A CONSTANT CIRCULATION OF AIR BETWEEN TANK AND CARRIER'S BACK. IT PROTECTS THE BACK FROM THE COLD WATER AND MOISTURE IN THE TANK AND KEEPS THE BACK WARM AND DRY. THE FORM-FITTING SHAPE OF THIS TANK FITS THE BACK PERFECTLY. SNUG AND FIRM AND FEELS GOOD.

FIGHT FIRE AND PREVENT WASTE

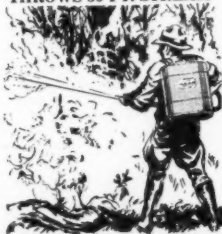
The clipping in the upper left corner is typical of many such from newspapers throughout the country. Every day—everywhere, from Alaska to Puerto Rico, INDIAN FIRE PUMPS are called upon to save lives and property from FIRE.

That they do the job quickly and thoroughly is evidenced by the continual flow of enthusiastic letters from foresters, fire wardens and private citizens who have used them successfully.

If you want the lowest priced Fire Insurance with the greatest Protection equip with INDIAN FIRE PUMPS immediately. When you get an INDIAN you get the best.

The Indian uses only clear water, no chemicals to buy or bother with. Quickly refilled from stream or faucet. Throws 50-ft. unbroken fire stream with ease. Ventilated tank feature keeps carrier's back warm and comfortable and this is a great aid in the hazardous work of fighting fires. The Indian combines the ideas of the foremost authorities on forest, brush, grass, and grainfield fire fighting.

THROWS 50 FT. STREAM



QUICKLY REFILLED



CARRYING HANDLE



Mail Coupon TODAY!

D. B. Smith & Co.,
405 Main St., Utica, N. Y.

Gentlemen: We want to know more about your line of Fire Pumps. Please send information and prices.

Name.....
Address.....
City.....
State.....

Manufactured by
D. B. SMITH & CO. UTICA, N. Y.

Pacific Coast Agents: HERCULES EQUIPMENT AND RUBBER CO., 11 Mission St., San Francisco, Cal.



"The Fastest axe on earth"

says America's Champion Chopper



Peter McLaren
America's Champion Chopper

Speed in an axe may not be so important to you as to a champion chopper. But you do need those very qualities which give a Plumb Axe its speed:

The electrically hardened and tempered blade which stays sharp.

The tapered blade that rolls the chip and frees itself in the cut.

The scientific distribution of weight which gives you a perfectly balanced axe.

The sturdy one-piece construction, with no weld to break.

The double-tested hickory handle which stands up in service.

Why not chop with the best axe, when it costs no more? Your hardware store has Plumb.

FAYETTE R. PLUMB, Inc.
Phila., U. S. A.



Dreadnaught Single Bit Michigan Axe

Made of one piece of high-grade steel—not two grades of steel welded together! Hardened for a depth of two full inches and toughened to hold a keen edge. Furnished in 3 to 5½ lb. weights.

Dreadnaught Double Bit Michigan Axe

Weight centered to add force to the "fall." Fan-shaped blade gives clearance in the cut. Furnished in 3 to 5 lb. weights.

Timber and Log Scale Sticks

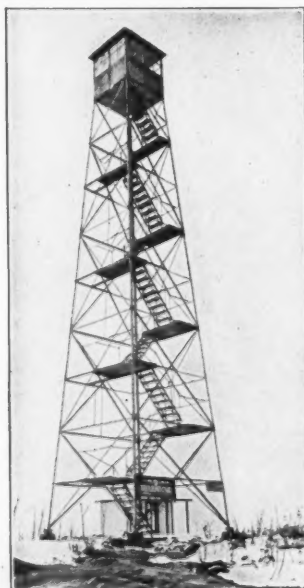
Designed especially for Loblolly and Shortleaf Pine. Each set consists of two Sticks in a heavy canvas container and a 16-page booklet giving complete instructions for use.

\$1 a Set, postpaid

The American Forestry Association

1713 K Street N. W.

Washington, D. C.



Courtesy Penna. Dept. of
Forests and Waters.

FIRE TOWERS

THIS 60-foot tower, erected in Elk County, Pennsylvania, is one of the many Aermotor fire towers which are found all over the forest regions of the United States. The Aermotor Company, years ago, designed and made the first galvanized steel towers for forest protection purposes. Aermotor towers have been found to be so well suited to the purpose that they are used almost exclusively. They are strong, durable and safe to climb. The prices are surprisingly low.

Write for free booklet giving full information.

AERMOTOR CO.

2500 Roosevelt Road .. Chicago

When Writing Advertisers—Mention AMERICAN FORESTS

William B. Greeley Injured

Colonel William B. Greeley, Secretary-Manager of the West Coast Lumbermen's Association, and a Director of The American Forestry Association, was seriously injured February 1 when struck by a motor truck at Portland, Oregon. The former Chief of the United States Forest Service sustained a lineal fracture of the skull and severe lacerations about the head. At the time of going to press his condition was reported as favorable.

According to reports received by The American Forestry Association, Colonel Greeley had just stepped from his parked car when the truck, in making a turn at a street intersection, crashed into his automobile, throwing him to the street.

Colonel Greeley has been Secretary-Manager of the West Coast Lumbermen's Association since 1928, resigning as Chief of the Forest Service to accept the position. During the World War he served as chief of the forestry section of the A. E. F., and had charge of the recruiting of forestry troops. He began his forestry career with the Forest Service in 1904, in California, his native state.

Dutch Elm Disease Control Work Makes Progress

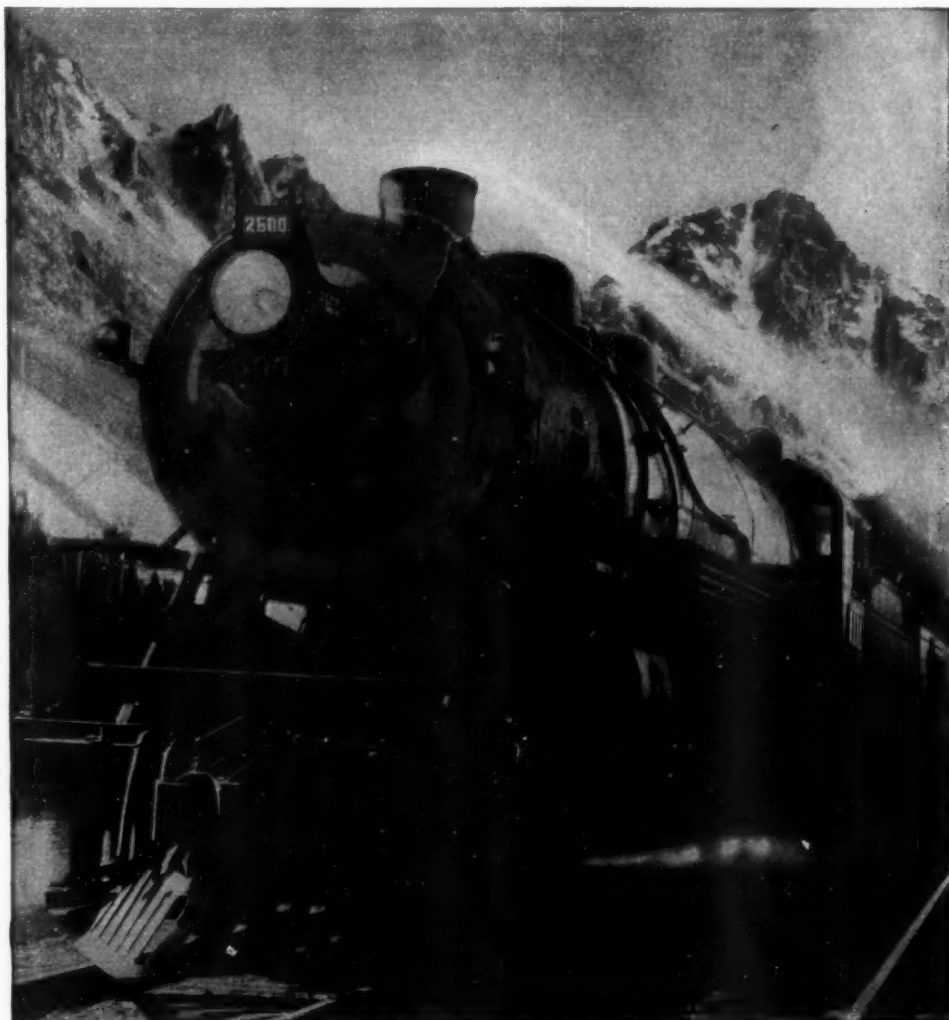
All elm trees definitely known to be infected with the Dutch elm disease were expected to be removed and destroyed by the end of February, according to officials of the Bureau of Entomology and Plant Quarantine, under whose supervision the emergency allotment of \$527,000 for control of this disease is being expended. From December 19, 1934, when the funds became available, until February 2, there had been destroyed 757 diseased elm trees and 22,054 dead and dying elm trees not definitely known to have the disease.

At that time 604 trees definitely diagnosed as having Dutch elm disease remained standing. In addition, approximately 140,000 dead or more than half dead elms had been tagged for removal. It is proposed to remove as many of these trees as possible with supplemental help such as can be secured from the Civilian Conservation Corps. Completion of this sanitation work within the diseased area will probably be completed before the small European bark beetles *Scolytus multistriatus* emerge in the spring. At present these insects are the only known disease carriers.

Early in February, 1,287 men, divided into 120 crews, were at work felling and destroying diseased and suspected elm trees in New York, New Jersey and Connecticut.

Government officials will thoroughly scout the region in and around the present known infected area this spring, to determine infections that may not have been apparent when the leaves dropped last fall. Estimates for control work during the summer, fall and following year will be made following these studies. Meanwhile, to assure no interruption in the campaign, The American Forestry Association has written the President urging an allotment of \$1,500,000 from emergency relief funds to be available until spent.

As an additional means of protecting America's elms, Secretary Henry A. Wallace, of the Department of Agriculture, called a public hearing in Washington on February 15, to consider the advisability of preventing individuals in Connecticut, New Jersey and New York from shipping elm plants, cuttings, elm logs, cordwood, lumber or articles made of elm with the bark attached. This would supplement the existing quarantine preventing the entry from abroad of logs or parts of elm trees carrying bark.

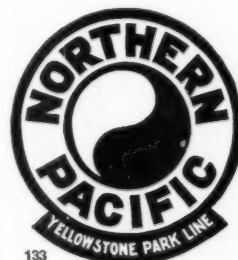


NORTH COAST LIMITED—Companion of Mountains Completely Air-Conditioned for Summer

A journey through the scenic Northern Pacific country will be more pleasurable than ever this summer. All cars on the North Coast Limited, de luxe train between Chicago and the Pacific Coast, will be air-conditioned—clean, quiet, comfortable.

A thousand miles of mountains—28 ranges of Rockies and Cascades—and rivers for 1408 miles are along the route of the North Coast Limited.

May we send you literature and detailed information about a western trip? There's no obligation.



Address—
E. E. Nelson
741 Northern Pacific Ry.
St. Paul, Minn.

YELLOWSTONE PARK •• PACIFIC NORTHWEST •• CALIFORNIA •• ALASKA

When Writing Advertisers—Mention AMERICAN FORESTS

NATURAL BRIDGEONE OF THE SEVEN NATURAL
WORLD WONDERS**HOTEL**

Rooms \$1.50 and up.

COTTAGES

Double Rooms \$1.00 per Person

NATURAL BRIDGE, VIRGINIA.

**ALLAN RANCH
KL****BEYOND ALL ROADS**

A very special ranch for you who truly wish to get away from the travelled highways. Hundreds of miles of trails through game-trodden mountains, miles of swift-rushing trout-laden rivers—at the ranch or on pack trips—all in the Big Rockies of Montana.

Our booklet tells you more about it.
P. O.: AUGUSTA, MONTANA

PRESIDENT URGES FOREST ACTION BY STATES

The appointment of state forest planning committees with representatives of state agencies, the public, and the forest industries authorized to collaborate with representatives of the Federal Government was urged upon all state governors by President Roosevelt on January 2.

Besides urging the closest cooperation between state authorities and the United States Forest Service, the President foreshadowed new federal legislation such as may soon be introduced in Congress to assure adequate government participation in carrying out the conservation provisions of the Lumber Code. Foremost among the desires of the President is the formation of plans for equitable taxation of forest lands, a nation-wide solution of tax delinquency problems, uniformly satisfactory forest fire laws and a better basis of cooperation between the state forest agencies and the owners of forest land to develop and maintain permanent local forest industries and communities.

In a letter to the governors the President said: "Maintenance of our forests and the industries dependent upon them, which in normal times afford employment to large numbers of our people, is very vital to the wel-

fare of every state. It is also essential for the permanent recovery of our country. It was with this in mind that I insisted that there be included in the Lumber Code a specific provision for forest conservation.

"Some of the provisions of the Lumber Code cannot be carried out effectively without federal and state legislation in the matter of protecting the forests against fire, insects, and disease, adjustment of forest taxation, taking over the tax-delinquent forest land for state or other public forests, other suitable measures to increase public ownership, and encouragement of better management of private forests.

"I intend to submit to Congress recommendations for legislation looking toward this end, so far as it comes within the scope of federal action. There are, however, several measures that come within the jurisdiction of the individual states. Among these are measures dealing with taxation of forests, tax delinquency, forest fire laws, cooperation between the state forest agencies and forest owners in developing and maintaining permanent local forest industries and communities, and other measures falling within the police power of the states.

"In developing such a forest program, I solicit the closest cooperation between the state authorities and the Federal Forest Service. One step in this direction would be the appointment by you of a committee, including representatives of state agencies, the public and the forest industries, which could collaborate with federal representatives. You may wish to consider some other approach. In any case, I am sure that I can count on your interest in helping perpetuate the forests and forest industries, for the benefit of the people of your state and the whole country."

**EXPERIENCED OUTDOOR PEOPLE DESIGNED THIS
LIGHTWEIGHT SLEEPING BAG FOR YOUR COMFORT!**

Ten years of Sleeping Bag use is incorporated in this sensational "BAK-PAK". Every advantage has been incorporated. Nothing has been sacrificed for compactness and light weight. Ideal for the lover of the vigorous outdoor; hikers, rangers, explorers, and vacation campers.



Compact Pack 18" x 18" x 8"

**ORIGINAL
BAK-PAK**
SLEEP-IN-BAGFull-Size
32" x 78"Moderately priced. At your dealer
or write now for complete catalog**LOOK AT THESE POINTS**

1. Waterproof cover
2. Weatherproof zipper
3. Complete 3 side hood
4. Knapsack for supplies (upright when in use)
5. Extra envelope pocket
6. Extra width at shoulder
7. Compartment for air mattress
8. Fits back for hiking

PACIFIC STATES EQUIPMENT CO., 1547 Venice Boulevard, Los Angeles, California**Study These Prices and Sizes of Trees**

(These trees were grown for the best estate trade on Long Island and must be sold immediately to prevent crowding)

EVERGREENS**\$1.00 a foot in height**

Arborvitae
Juniper
Retinospora
Hemlock

\$.50 a foot in height

Spruces
Pines—
White, Scotch, Red,
Austrian

NEARLY ALL VARIETIES ARE AVAILABLE

Norway Maples—American Elms—Oaks—Birches—Sycamores**Silver Maples**

2½ to 3" Caliper	\$ 7.00 each
3 to 4" Caliper	11.00 "
4 to 5" Caliper	20.00 "

EQUIPMENT FOR RENT TO MOVE LARGE TREES

We have over 100,000 of these and other large size trees at popular prices. Send us your list, or plan for estimate or snapshots of your project and we will submit list.

JERICHO TURNPIKE TREE & SHRUB NURSERY

SYOSSET, L. I., N. Y.

Wholesale Only**National Forest Area Expanded**

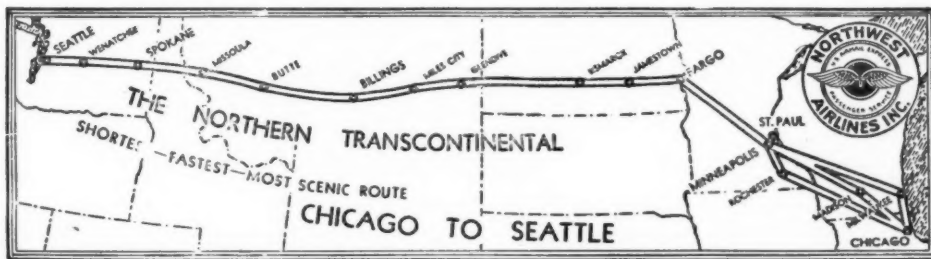
Creation of twenty new National Forest units, additions to sixteen of the existing National Forests and approval for Federal purchase of nearly half a million acres of forest lands were announced by Secretary of War Dorn, president of the National Forest Reservation Commission, on January 21.

The new National Forest purchase units to be established include five in Ohio, four in Iowa, and three in Indiana, states which heretofore have had no National Forests. Other new units authorized were four in Alabama, two in Missouri, and one each in Michigan and Virginia.

Additions to several older National Forest units were also authorized. Two are adjacent to the Hiawatha National Forest, in Michigan, three to other National Forests in that State, five in Missouri, three in Minnesota, two in Illinois, and one each in Alabama, Arkansas and Mississippi. These additions will extend the exterior boundaries of the National Forest units, within which future purchase of lands may be made.

Aggregate gross area of all the thirty-nine units and additions is nearly 11,000,000 acres. Of this amount it is expected that 9,000,000 acres will eventually be purchasable.

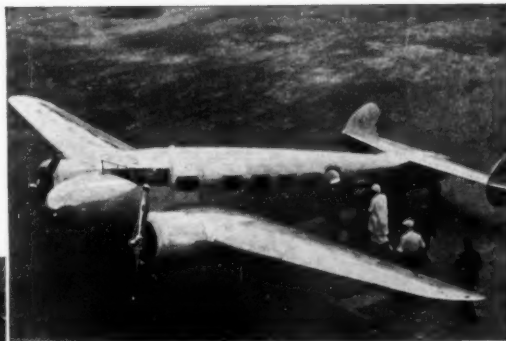
These new purchase units and additions to existing units are to be established under the amended Weeks forest law and were authorized by the Commission, it was stated, on the basis of belief that extension of federal forestry activities to these regions will create new opportunities for helpful participation in the solution of difficult economic and social problems of the localities. As options are taken on lands within the new units and as purchases are approved they will immediately be placed under the administration of the United States Forest Service, and will be protected from fire and will be managed for sustained production.



2 EASY STEPS

land you quickly and comfortably
in any of these Northwest points

STEP ONE: You board a luxurious Northwest Airliner . . . an all-metal Lockheed Electra—one of the world's most modern transports. Two motors, two pilots, two-way radio. Your smooth-running ship thinks nothing of spanning half a continent in half a day!



STEP TWO: You sink deep in a restful, reclining chair. (Plenty of room for "knee action"!) Breathe clean, pure air, or light a cigarette . . . chat with your neighbor in polite tones . . . read . . . write . . . or just watch the Northwest fly by. Almost too soon you're *there!*

NORTHWEST AIRLINES, INC.

or leading hotels, travel bureaus, Postal Telegraph and Western Union offices.



WHEN WINTER HAS YOU
ALL AT SEA
Head for the Shore

COME DOWN and get your bearings at Chalfonte-Haddon Hall. We'll give you a new horizon and a renewed appetite. Outside there's golf, horseback riding on the sand; ice hockey in the Auditorium. Inside: cozy lounges, health baths, fine food and varied entertainment. Also sunny Ocean Decks. Rates are moderate on both the American and European Plans. Special weekly rates.

Leeds and Lippincott Company

**Chalfonte-
Haddon Hall**
ATLANTIC CITY

Nearest to Everywhere
IN

CHICAGO

Yet Farthest from
Traffic Noise

the Upper Rooms of the 46-Story

**MORRISON
HOTEL**

Madison and Clark Streets
THE CENTER OF DOWNTOWN



Home of the Terrace Garden
LEONARD HICKS, Managing Director

SINGLE
ROOM

\$2.50 UP

\$4.00 Double

with Bath
Servidor and
Circulating
Ice Water

COMMISSION ADVISES REDUCTION OF ELK

The Federal Elk Commission, meeting in New York on January 21 in connection with the American Game Conference, went on record as favoring a reduction in the number of elk in the northern Yellowstone herd as a necessary measure in adjusting the herd to its winter feeding range. Discussion of the situation brought out that the winter range now available to the herd will support a maximum of ten thousand head whereas there are estimated to be thirteen thousand elk in the herd. All information shows that a reduction of some three thousand animals is necessary if the herd is to be prevented from heavy losses and possible extinction resulting from starvation and disease.

Viewing the situation as critical, the commission passed a resolution reading as follows: "Whereas sufficient winter food for the northern herd of Yellowstone elk has constituted a serious range problem for many years, and whereas conditions on the range are now seriously endangering the future safety of the herd because of destruction of the range by over-grazing and whereas the

maximum herd must not exceed the average which can be supported on the winter feeding grounds in an average year, and whereas due to surpluses great and unnecessary losses have taken place in severe winters and similar losses can be expected in the future, therefore be it resolved that the Federal Elk Commission favors controlling the number of elk by: (1) increased killing by hunters in Montana, (2) furnishing as many live elk as possible for the starting and increasing of herds of elk elsewhere, (3) should the above measures fail to accomplish the reduction necessary, limited killing under government supervision only to the necessary extent to bring about the needed reduction called for by the carrying capacity of the range, the meat to go to Indian reservations, state institutions and relief organizations."

The Commission also passed a resolution favoring the acquisition by the Government of lands in the valley of Yellowstone River from the park boundary to Yankee Jim Canyon in order to provide additional winter grazing range for the northern elk herd.

NATIONAL WATER POLICY RECOMMENDED

A series of inclusive plans for the use and control of America's water resources, such as is foreshadowed in the Tennessee Valley Authority, is visioned in the Water Planning Committee's report to President Roosevelt, released by the National Resources Board on January 18. "No stream, no rivulet, not even one of those tiny rills which cause 'finger erosion' in the Corn Belt, * * * is not a matter of some concern to all the people of the United States. The individual and local interest builds up, almost imperceptibly, into the general and the national."

Dividing the entire United States into twelve great regional basins, the Board proposes programs of use in which the construction of reservoirs, reforestation, control of erosion and prevention of pollution play large parts, with sustained agriculture, power and recreation as important by-products. The development of these regional basins will include efforts to complete the topographic mapping of the country and systematic inventories of all water resources, including studies of the ground waters of the nation. In working toward these objectives the Committee would develop more productive uses of water, water supply, navigation, power, irrigation and recreation; eliminate or neutralize floods and erosion; and correct or prevent pollution, waste through run-off and drainage,—these to be accomplished through existing public agencies and with the intelligent understanding of good-willed citizens.

Public recreation figures in the plans by encouraging fishing grounds, restraining ill-advised drainage to protect wild-fowl hunting areas and through the maintenance of liberal policies of public use along lines so successfully developed on the National Parks and National Forests.

The well-written text supported by maps and diagrams presents an amazing survey of the nation's water resources, with recommendations for their development to assure the future growth and prosperity of the country. "The vastness of our country, the wide range of climate and topography, the abrupt seasonal changes affecting most of our watersheds, all tend to make the formulation of a national water policy difficult. At the same time they also make it essential," declares the report. "The task of making and carrying out a national water policy will involve many agencies, some existing, some which must be created. It will take a long time. It will demand the highest order of states-

manship and patriotism."

Some idea of the significance of this and other recently released reports of the National Resources Board is found in President Roosevelt's message to Congress on January 24. Urging the immediate passage of legislation to provide him with authority to spend over four billion dollars for emergency relief purposes, he said:

"In this inventory of our national wealth we follow the custom of a prudent people toward their own private property. We as a nation take stock of what we as a nation own. We consider the uses to which it can be put. We plan these uses in the light of what we want to be, of what we want to accomplish as a people. We think of our land and water and human resources not as static and sterile possessions but as life-giving assets to be directed by wise provision for future days. We seek to use our natural resources not as a thing apart but as something that is interwoven with industry, labor, finance, taxation, agriculture, homes, recreation, good citizenship. The results of this interweaving will have a greater influence on the future American standard of living than all the rest of our economics put together."

"For the coming eighteen months I have asked the Congress for four billion dollars for public projects. A substantial portion of this sum will be used for objectives suggested in this report. As years pass the Government should plan to spend each year a reasonable and continuing sum in the development of this program. It is my hope, for example, that after the immediate crisis of unemployment begins to mend we can afford to appropriate approximately five hundred million dollars each year for this purpose. Eventually this appropriation should replace all such appropriations given in the past without planning."

The Water Planning Committee appointed by the Public Works Administration to investigate and report upon the nation's water resources, together with related problems of flood control, navigation, irrigation, soil erosion and forestation is the same as that which prepared the Mississippi Valley Report. Morris L. Cooke of Philadelphia is Chairman. The National Resources Board, which received the report, is headed by Harold L. Ickes, Secretary of the Interior, and an advisory board consisting of Frederic A. Delano, Dr. Charles E. Merriam and Dr. Wesley C. Mitchell.

♦ Book Reviews ♦

FISHING A TROUT STREAM, by Eugene V. Connett. The Derrydale Press, New York. 138 pages—illustrated. Price \$7.50.

Here at last is something every angler should welcome—a pictorial lesson in the art of trout fishing. Instead of being told how to catch trout the reader is shown. He accompanies an expert fly fisherman to a beautiful trout stream and watches him fish all types of water. He is shown in detail where the trout lie, how to approach them, and how to catch them so that no trick may be missed. There is a brief type explanation under each picture explaining exactly what is being done and why.

Such a book cannot and does not deal with theories, for the candid eye of the camera reveals practical tactics and unfolds detail of stream and trout that words cannot color. Both wet and dry fly fishing are dealt with.

It is quite evident that the illustrations have been carefully selected. The author tells us that the ninety-four used were selected from more than 200 specially taken for the purpose.

Here is something new, something different, something that even the rankest amateur can apply with striking and immediate benefits. And if the old-timer thinks he can pass it up without finding the illustrations intriguing and helpful, he has reached a stage where fishing has lost its charm.—E. K.

AMERICA'S CAPACITY TO CONSUME, by Maurice Leven, Harold G. Moulton and Clark Warburton. Published by The Brookings Institution, Washington, D. C. 272 pages. Price \$3.00.

Those who imagine that the depression is due to over-production and that economic conditions can be righted by plowing under every third row of cotton, reducing the number of pigs and restricting hours of labor will find their ideas shattered in the amazing compilation of figures and charts dealing with income, savings and the extent to which individuals and families can expand their consumption in **AMERICA'S CAPACITY TO CONSUME** as presented by the Brookings Institution.

Based on an overpowering mass of data the authors conclude that vast potential demands for basic commodities and conventional necessities exist in the unfulfilled orders of the masses of the people of this country. The suggestion is made that if by some means the average income of each family throughout the country could be lifted by \$500 to \$1,000 their demands for commodities which could raise their standards of living to levels more nearly comparable to the requirements of health and efficiency, would absorb more than the full productive capacity of the nation.

The authors go further and declare that to meet the potential demands of the American people for goods and services the working week cannot be materially shortened.

AMERICA'S CAPACITY TO CONSUME is one of a trilogy produced by the Brookings Institution, fitting in between **AMERICA'S CAPACITY TO PRODUCE** and **THE RELATION OF CONSUMPTION AND PRODUCTION**, which promises to sum up and bring to conclusion the data assembled in the first two volumes.—G. H. C.

You bought these FIRST from ATLAS

They Are Important in Forestry Work

... and year after year
ATLAS keeps in the
vanguard with new
ideas in forest blasting

Behind the Atlas trademark lies a history of progressive developments resulting in first improvements that have become standard practice.

From the first dynamite plant in America, operated by what is now the Giant Division, to the modern concept of *controlled energy*, Atlas explosives and blasting accessories have represented quality, economy—and advancement.

Are you making use of the new ideas in forest blasting which Atlas has been introducing. The Atlas representative will demonstrate at your request.



ATLAS POWDER COMPANY

WILMINGTON, DELAWARE

Cable Address—ATPOWCO

Everything for Blasting



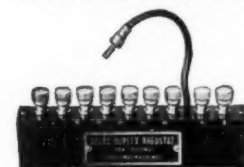
ATLAS ACCORDION FOLD
packaging of individual electric blasting caps and squibs. Compact, safe, easy to handle and use. First introduced in 1933.



ATLAS METAL SHUNT ATTACHMENT
An important protective device that short circuits the bare ends of leg wires of Atlas Electric Blasting Caps and Squibs. First introduced in 1925.



BLASTING MACHINES
Pocket Type—introduced in 1925.
Twin-Fifty—introduced in 1933.



ATLAS RHEOSTAT
for testing Blasting Machines. A small item, but of tremendous importance in insuring adequate current from Blasting Machines. Distinctive Atlas Duplex Type introduced in 1924. Patented.



ATLAS MATCH-HEAD TYPE ELECTRIC BLASTING CAPS
with unique design and patented features that established new standards of simultaneous firing. First introduced in 1919.



Atlas offers an acceptable explosive for every forest use.

FOR PROPER PRUNING, USE PROPER TOOLS **BARTLETT** TREE TOOLS

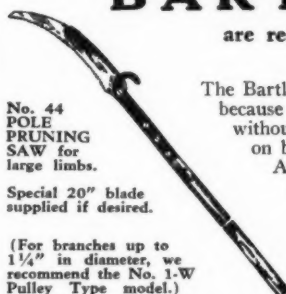
are recommended by users in all parts of the
United States and Canada

The Bartlett No. 44 Pole Pruning Saw is always in demand because of the 16 inch Curved Blade which saws easily, without binding. Regular blade has peg tooth and cuts on both strokes, or Special Blade cuts on draw only. Adjustable to three different angles. Length of pole, 8 to 16 feet. Write to us for Utility Catalog.

No. 44
POLE
PRUNING
SAW for
large limbs.

Special 20" blade
supplied if desired.

(For branches up to
1 1/4" in diameter, we
recommend the No. 1-W
Pulley Type model.)



BARTLETT Manufacturing Co.
3019 EAST GRAND BOULEVARD
DETROIT MICHIGAN

NURSERIES

Trees for Forest Planting PINE:::SPRUCE

Firs, Arborvitaes and Other
Conifers. We raise all our
trees in our own nurseries.

KEENE FORESTRY ASSOCIATES
KEENE, NEW HAMPSHIRE

FRANKLIN FORESTRY CO.

Nurseries at
Sudbury, Shelburne Falls and Colrain, Mass
EVERGREENS AND PERENNIALS
SEND FOR CATALOGUE
89 STATE ST., BOSTON, MASS.

EVERGREEN TREES FOR FOREST PLANTING

CERTIFIED White Pine, free from blister rust, Norway and White Spruce, Scotch and Red Pine and other varieties. Know our reasonable prices. Get our figures on Contract Planting.

Western Maine Forest Nursery
Dept A-35, Fryeburg, Maine

Young Aristocrats

Rare and unusual grafted trees and shrubs about 12 inches high at amazingly low prices. Azaleas, Rhododendrons, Magnolias, Japan Maples, Franklinia tree, etc. Balled and burlapped; can be shipped in fall or early spring. Write for list.

KELSEY NURSERY SERVICE
50 Church Street, New York City

Evergreen Trees

Seedlings and Transplants

AT LOWEST PRICES

for

FOREST PLANTING
ELFGREN NURSERIES

EAST KILLINGLY CONNECTICUT

WE OFFER FULL LINE NURSERY STOCK, LARGE AND SMALL PLANTS

	(100)	(1000)
Red Pine, Twice trans. 18-24 in.	\$6.00	\$50.00
Red Pine, Twice trans. 12-15 in.	5.00	35.00
Aust. Pine, Twice trans. 18-24 in.	7.00	60.00
Aust. Pine, Twice trans. 12-18 in.	6.00	50.00

Also many other varieties. Send for list prices.
Mention AMERICAN FORESTS when writing.
THE CHERRY HILL NURSERY COMPANY
ROCKFALL, CONNECTICUT

A FOREST SAVED IS A FOREST RAISED

FORESTRY IN CONGRESS

By G. H. COLLINGWOOD

Bills relating to forestry and conservation have been introduced almost daily in both Houses since Congress convened. To date no less than 150 bills await consideration, but with the pressure of regular and emergency legislation only a small proportion of them can be expected to be acted upon. Few have been considered either in committee or on the floor of either House and none thus far considered are of national importance.

An amazing volume of bills relating to the control of floods and the conservation of water resources in several of the great river valleys of the country have been introduced. With the Tennessee Valley Authority as an example and the pressure for the development of constructive work projects as an incentive it is more than likely that one or more of these bills will be passed, in which case other authorities similar to that now established in the Tennessee Valley will be undertaken. First to receive consideration before the House Committee on Flood Control are H. R. 4122 and H. R. 4128, introduced by Representatives Frank H. Buck and Henry E. Stubbs, each of California. These identical bills are designed for the control of the Sacramento and San Joaquin Rivers, in what is known as the Central Valley. Expenditures of \$170,000,000 are contemplated to affect the agricultural and industrial development of approximately 14,000,000 acres and the lives of nearly a million people residing in the valley. Hearings were conducted on February 7 to 9.

The work relief bill, H. J. Res. 117, authorizing appropriations of \$4,880,000,000 together with unusual emergency authority to the President, passed the House on January 24 after brief discussion and few amendments. One of these limits the President's power to consolidate, abolish or transfer the functions of Governmental agencies to those which are of an emergency character. Accordingly, if this change stands after final passage the President's power to reorganize Government departments through executive order may lapse after March 20, 1935.

As reported to the Senate on February 14, the amended work relief bill would authorize the acquisition of land "by purchase or by the power of eminent domain." Some discussion has centered about the proposed power to make appointments for carrying out the provisions of the bill "without regard to the provisions of the Civil Service laws." Under date of February 7, President Roosevelt is reported to have written the National Service Reform League that under instruction from him the Civil Service Commission has prepared an amendment which would assure appointments under Civil Service regulations rather than wholly as patronage.

From the time the bill was referred to the Senate Committee of Appropriations it has been subjected to bitter attack. Because of vigorous efforts to earmark portions of the appropriation for specific projects and otherwise amend the bill, several weeks will probably elapse before the final conference between the House and Senate.

The discussion regarding appropriations for the Department of Agriculture, including those

for the Forest Service and Biological Survey, had been limited by the House Subcommittee, up to the time this went to press, to departmental officers. The American Forestry Association is working to have the Budget recommendation for forest fire cooperation amounting to \$1,578,632 increased to \$2,500,000. This is the extent of the authorization named in the Clarke-McNary Act and until this act is amended no greater appropriation can be made.

Assuming that more adequate appropriations for the eradication of the Dutch elm disease can be secured from emergency allotments or through special legislation, it is assumed that the Budget recommendation of \$261,156 "to be immediately available" will be sufficient to maintain the technical supervision and investigations necessary to a successful campaign. Representative Pehr G. Holmes of Massachusetts has introduced H. R. 5065 authorizing \$500,000 for the control and eradication of the disease. Meanwhile, Dean Henry S. Graves, President of The American Forestry Association, has written the President urging an allotment of \$1,500,000 from emergency relief funds.

The American Forestry Association has pointed out in a news bulletin from the Forester's Office that the \$250,000 included for maintaining scientific and supervisory services in the control of white pine blister rust is inadequate and should be increased to \$400,000 or if possible \$450,000. At present \$345,000 is necessary to maintain the supervisory functions of the Office of Blister Rust Control in Washington, D. C., the northeast, the southern extension of the Appalachians, the Lake States and the far west. The smaller appropriation proposed by the Budget, while restoring the necessary language to the Act, would curtail present activities and possibly cripple the work should another large allotment be made from emergency relief sources.

Efforts are also being made to increase the appropriation for gypsy moth and brown-tail moth control from \$400,000 as authorized by the Budget to at least \$650,000. Hearings in which the state supervisors participated during the past fall and winter indicated that close to \$1,000,000 will be necessary if the barrier zone from Long Island Sound to the Canadian Border is adequately maintained and the Pennsylvania infection in the vicinity of Wilkes-Barre eradicated. Residents of the northeast are united in their belief that this destructive insect must be held from making further westward progress.

Hearings on the appropriation for the Department of Commerce, of which the Bureau of Fisheries is a part, have been completed and the bill reported to Congress on February 4 as H. R. 5255. The Fisheries appropriations recommended are largely as recommended by the Budget Bureau except that an item of \$15,000 to regulate interstate transportation of black bass and aid the states in enforcing their black bass laws was taken out. This item has been the subject of a fight each year since the passage of the Act of July 2, 1930.



Forestry Questions Submitted to The American Forestry Association, 1713 K St., N. W., Washington, D. C., will be Answered in this Column. . . . A self-Addressed Stamped Envelope Accompanying Your Letter will Assure a Reply.

✦ ✦ ✦

QUESTION: What is the smallest size of sugar maple that can be tapped without harming the vitality of the tree?—C. N. R., N. Y.

ANSWER: Trees less than nine or ten inches in diameter at the breast height of a man are not worth tapping. The crown of a smaller tree is usually insufficient to develop a high sugar content in the sap, and the cost of producing the syrup becomes excessive. Smaller trees can be tapped without harming their vitality, but it is not economical to do so.

QUESTION: I should be most obliged if you could recommend me a good American book on the Rainbow trout (*S. Iridens*).—R. S. B., India.

ANSWER: U. S. Bureau of Fisheries Document No. 955, which deals with trout culture and which may be obtained for twenty cents from the Superintendent of Documents, Government Printing Office, Washington, D. C., is recommended.

QUESTION: I would like to know whether any agency has tried to introduce the Japanese lumber trees, Sugi (*Cryptomeria japonica*, Don.) and Hinoki (*Chamaecyparis obtusa*, Set. Z) into this country and if so with what success.—P. J., St. Paul, Minn.

ANSWER: Both the trees are growing in gardens, parks and on private lawns throughout the United States but there is no record of any effort to plant them for lumbering purposes.

Cryptomeria japonica is hardly as far north as New York State and in sheltered portions in the neighborhood of Boston and western New York. On the Pacific Coast it has been planted as an ornamental and does well on areas adjacent to Puget Sound.

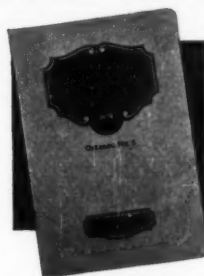
Chamaecyparis obtusa is widely planted throughout the east and is hardly as far north as New England and Ontario. Trees have been reported sixty feet high in the north-eastern states.

QUESTION: How many National Forests and National Parks are there in the United States and Territories and what is the total area?—J. G. W., Virginia.

ANSWER: There are 145 National Forests in the United States and Alaska comprising a gross area of about 188,000,000 acres and a net area, excluding privately owned lands within the forest boundaries, of over 162,000,000 acres. The twenty-four National Parks have a gross area of 6,541,027 acres. In addition, there are sixty-seven National Monuments of 6,687,954 acres, eleven Military Parks of 16,743 acres, eleven National Cemeteries of 260 acres, ten National Battlefield Sites of 136 acres, four Miscellaneous Memorials of 315 acres, and National Historical Parks of 932 acres, making a grand total of 15,247,388 acres under administration of the National Park Service.

TOOLS that do the work

Send for NEW Catalogue:



We have just issued a special 40-page catalogue of Heavy Duty Tools of improved design for forestry and public work. Offers valuable suggestions for any man in charge of workers and a convenient reference for the most modern types of forged "special purpose" tools, stocked by leading jobbers everywhere.

Mail handy coupon for your copy.

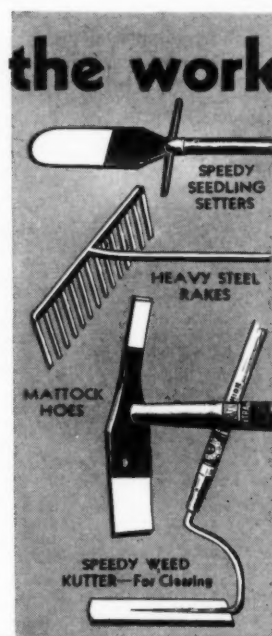
THE UNION FORK & HOE CO.

Dept. AF-3, Columbus, Ohio

Gentlemen: Send new Catalogue No. 2 of heavy duty Forks, Rakes, Hoes, Handles and other tools having special application to forestry or public work.

Name.....

Address.....



FOREST TREES

of the

District of Columbia

A handy pocket-size book of 64 pages, containing illustrations and the distinguishing characteristics of 68 of the more common forest trees of the United States. Also gives both the common and scientific names.

Over 8,000 copies have been sold.

30 Cents, Postpaid

THE AMERICAN FORESTRY ASSOCIATION

1713 K St. N. W. Washington, D. C.

AN ESTATE PROBLEM IS SOLVED

WHEN an estate owner seeks the services of a superintendent, gardener, or assistant gardener, he is faced with the tedious task of investigating the records and references of numerous applicants, many of whom lack the proper qualifications.

Our service department offers a happy solution to this problem by placing the estate owners in contact, through written application or personal interview, with men whose qualifications fit them for the particular position to be filled.

NATIONAL ASSOCIATION OF GARDENERS

Dorothy Ebel Hansell, Secretary

522-A Fifth Avenue New York City



FIRE LINE
CONTRACTORS
MUST MAKE
PROFITS
MOST OF THEM
USE
HESTER PLOW
EQUIPMENT

SEE YOUR NEAREST TRACTOR DEALER OR WRITE

HESTER PLOW COMPANY, INC.
JACKSONVILLE, FLORIDA, U.S.A.

IMPROVE YOUR SHOOTING

This Guaranteed Way

YOU can now become a member of the National Rifle Association, learn from the inside how it operates to protect you from proposals to pass laws which would place you in the criminal class for owning firearms,—improve your shooting knowledge by reading the **AMERICAN RIFLEMAN** magazine every month—take advantage of the Association's technical service to help you select the right equipment for the first time—enjoy the thrill of winning gold, silver and bronze shooting medals while practicing with your rifle and pistol at home—use any or all the benefits of membership offered by this great sportsman's organization.

And then if you do not feel that you have received your money's worth ask, within six months, for the return of the entire amount and you will get it. We ask only that you do not request a refund if you have purchased a government rifle or other special Ordnance equipment from the War Department.

Dun and Bradstreet will give you our financial rating, and a hundred thousand of your fellow sportsmen will give you our rating for integrity.

It is because of the thousands of letters of appreciation received from these sportsmen and from their fathers and grandfathers through 63 years of continued service to the shooters of America that we feel safe in making such an unconditional guarantee.

You risk no money in joining the National Rifle Association today—and we honestly believe that before long you will be very glad you did. So, pin your check to the money saving coupon below and mail to us now. Remember, "your money's worth or your money back."

If you would like more information before making your decision, return the coupon anyway (with 6c in stamps to cover postage), and we will send you a sample copy of the AMERICAN RIFLEMAN together with full particulars about the benefits of N. R. A. membership.

"MONEY'S WORTH" COUPON

NATIONAL RIFLE ASSOCIATION,
881 Barr Building, Washington, D. C.

I accept your offer. Here is my \$3.00. Send me N.R.A. membership credentials and enter my subscription to the American Rifleman magazine for one year, in accordance with your "money's worth or money back" guarantee.

I will give you three months to prove your case. Then within six months after joining, if I decide the membership and subscription are not worth \$3.00 a year to me, you are to refund my \$3.00, provided I have made no purchases from the War Department.

I certify that I am a citizen of the United States over 18.

☐ Check here (and enclose 6c postage) if you wish a sample copy and additional information before deciding.

Name

Address

City..... State.....
Recommended by:

Name

Title.....or ☐ Annual Member
☐ Life Member

Science and Business Oppose Transfer of Forest Service

Two more national organizations—one the largest in the field of science, the other the largest in the field of business—have recently gone on record as opposed to separation of the forestry work of the Federal Government from the Department of Agriculture.

At its annual meeting in Pittsburgh, the American Association for the Advancement of Science, which represents 141 associated scientific societies with 725,000 members throughout the United States, adopted a resolution declaring "that any reorganization of the United States government agencies should provide for the continuance in the Department of Agriculture of the land utilization agencies now there, including the Bureau of Chemistry and Soils, Forest Service, Biological Survey and the additions of such other agencies as have to do with the agricultural, forest and range use of the Public Domain or the protection thereof from erosion."

On the same day the Association made its position in respect to the Forest Service more specific by passage of a separate resolution holding that any governmental reorganization "should provide that the United States Forest Service remain as at present a part of the United States Department of Agriculture."

A similar attitude in respect to transfer of the Forest Service from the Department of Agriculture was taken at the western divisional meeting of the U. S. Chamber of Commerce, held at Los Angeles, California, in December. In a resolution pointing out that the management of forest land rests upon the same biological complex as that which underlies agriculture and that the Forest Service has need for and recourse to technical

knowledge and vital cooperation with other bureaus of the Department of Agriculture, the western division of the Chamber declared its opposition "to the separation of the Forest Service from the United States Department of Agriculture and administration of submarginal land." The resolution further declares that the administration of erosion control projects, together with grazing and other agricultural activities on the Public Domain, should be centralized in the Department of Agriculture. These latter activities are now under the jurisdiction of Secretary Ickes of the Department of the Interior.

The action of both organizations in formalizing their positions was prompted by the much discussed proposal last fall that the Forest Service be transferred to the Department of the Interior. As a result of this threat many national organizations throughout the country have recorded vigorous protest to any separation of forestry from agriculture. In addition to the American Association for the Advancement of Science and the western division of the U. S. Chamber of Commerce, national organizations which have passed resolutions opposing the proposed transfer include the General Federation of Women's Clubs, the American Farm Bureau Federation, the National Grange, the American Game Association, The American Forestry Association, the Izaak Walton League of America, the Society of American Foresters, the Association of State Foresters, the Farmers Federation, the Society for the Protection of New Hampshire Forests, and the Association of Land Grant Colleges. In addition a large number of state and regional organizations have entered protests against the proposal.

Ickes Favors A Department of Conservation

On two occasions within the past few weeks, Secretary of the Interior, Harold L. Ickes, in public addresses, has placed himself on record as favoring the grouping of all conservation agencies of the government in one department, charged with the responsibility of developing and administering the natural resources of the country.

In an address at the annual banquet of the twenty-first American Game Conference in New York on January 22, Secretary Ickes declared that "if we are in the highest degree to protect, foster and prudently use our natural resources in the interest of all the people, the administration of conservation activities should be concentrated in one department under a sincere conservationist so that conflicts may be avoided, jealousies stilled and an opportunity given to drive ahead along a broad front in the cause of conservation."

In the course of his address, Secretary Ickes asserted that the real trouble with the conservation movement today is that it is subdivided into small cliques and factions and lacks cohesiveness. "Forces that ought to be united and working disinterestedly for the common good," he said, "are so busy struggling for their own selfish interest that due to the resulting confusion of counsel the exploiters are still largely having their wanton way with the natural resources of America."

The Secretary paid a high compliment to President Roosevelt for his conservation leadership and charged that his efforts are being obstructed and harassed by "little cliques of one-track minded conservationists concerned only with their own selfish ends whose purpose is to deny to the great conservationist in Washington the right to form and carry out his own judgment for the best good of the country as a whole." Secretary Ickes closed his address with a tribute to the conservation work of the Department of the Interior.

His address was interpreted by many in his audience and by the press as a direct bid to have all conservation work concentrated in his Department.

Speaking at a later date, on January 28, at the annual meeting of the American Civic Association in Washington, Secretary Ickes again expressed his conviction that all federal conservation activities should be brought into one department. He said, however, that he did not care what department is selected.

Following the Secretary's address in New York, the press carried a story to the effect that F. A. Silcox, Chief Forester of the Forest Service, Department of Agriculture, who was scheduled to address the American Game Conference at its final session, had taken issue with Mr. Ickes' implied desire for all conservation work. Secretary of Agriculture, Henry A. Wallace, promptly issued a denial from Washington saying that "the reference to Mr. Silcox's speech in Wednesday afternoon papers is a wholly unwarranted interpretation of one paragraph of the speech which does not in any way refer to the Department of the Interior. If that paragraph raises any question whatever it is as to the adequacy of state control of game resources, a matter in which the Department of the Interior does not function except within the National Parks to which no reference is made in the address." Investigation showed that Mr. Silcox had not heard the Secretary's speech and had given out no comments on it. His own address to the Game Conference on the following afternoon dealt with the management of game on the National Forests.

Later Secretary Wallace, in a press announcement, said: "I am authorized to say that the Administration does not contemplate transferring the Forest Service or Biological Survey from the Department of Agriculture."

When Writing Advertisers—Mention AMERICAN FORESTS



New Automatic Caliper

From Sweden comes an entirely new idea in forest mensuration. This is a wooden fork with the two arms separated by an angle of sixty degrees. From the apex of the angle projects a graduated scale to be pressed against the tree. The scale works with a spring through a slot where the diameter of the tree or log may be read directly in inches.

The scale locks when a measurement is made and may be released after the diameter is read. This permits mounting the instrument on a pole to obtain diameter at any height on standing trees. A simple attachment makes the instrument self registering. It is used with one hand while other tree calipers require both.

Power Saws

Recently Regions 1 and 6 of the United States Forest Service have conducted experiments with Power Saws. Of particular interest are experiments made with the Wolf Chain Saw on lodgepole and yellow pine. This equipment is powered with a four cycle air-cooled gas engine and it was found that under favorable conditions would make very rapid cuts. The general conclusion has been that under ideal conditions this saw with a three or four-man crew would do the work of three or four sets of fallers. The present available model makes a thirty-six-inch cut, although saws for forty-eight and sixty-inch cuts will soon be available. A weight of eighty-five pounds is an important factor in moving the equipment from place to place.

One-Man Maintenance Unit

A one-man maintenance unit for use behind any tractor from 20-horsepower up and consisting of a series of cutting blades that distribute the loosened material over the road surface, effectively filling all ruts and depressions, has been announced by the Austin-Western Road Machinery Company. This Western No. 5 planer is controlled by the operator of the tractor by means of a hand wheel within easy reach and adjustable both as to height and distance from the tractor seat.

The planer has an actual cutting width of twelve feet and carries forty-six feet of cutting blades. There are three stationary blades on each side running to the middle of the frame, and one long adjustable blade, at the rear, that can be set to any desired angle. For use in cases where there is plenty of loose material at one side of the road and a scarcity of available material in the middle, an auxiliary blade is furnished. This blade connects one of the forward sets of blades according to the direction the material is to move, and the material is carried across the machine to where it is needed. The remaining blades work back and forth as before.

Further information concerning any of the above products will be supplied in your self addressed stamped envelope mailed to American Forests, 1711 K Street, N. W., Washington, D. C.

The drag frame is made of heavy six-inch ship channels thoroughly braced by means of two heavy torque tubes, five inches in diameter. The main frame similarly is braced by two torque tubes three and one-half inches in diameter, which prevent the frame from weaving when the machine is operated. The machine is furnished with an Alemite high-pressure greasing system except for the gears, which run in oil.

Truck-Driven Compressors

Large numbers of air compressors have been purchased for forest use out of funds available under the Emergency Conservation Act for use in connection with C.C.C. Camps. Frequently forest engineers mount full size portable air compressors upon trucks for the sake of mobility, but this necessarily prevents the use of the trucks for other important service. The Davey Compressor Company, Inc., now offers a compressor of two-pavement-breaker or one-jackhammer capacity which can be mounted on any long wheel-base truck, taking its power from the truck motor. These truck-driven compressors occupy about one-fourth of the truck-body space, leaving room for special bodies to carry men, tools and materials. Because of their air-cooled construction, they absorb about one-fourth the weight capacity of a one and a half ton truck, leaving enough carrying capacity for other purposes.

Flame-Proof Netting

A new type of fly-proof and mosquito-proof netting of special interest to those whose work or pleasures keep them in the woods overnight has just been developed by the Royal Canopic Company. When not in use the canopy netting folds into a small compact unit. In operation it can be attached either to a cot or sleeping bag without the necessity of ty-strings, or ropes, sticks or spikes in the assemblage. The nets come in various colors, that of the dark green being of special interest to foresters in that the netting has been especially treated to be made flame-proof. This product is unusually desirable for use in the forests as it eliminates all fire hazards. The product comes wrapped and sealed in cellophane and is made up into a small compact unit which may be easily packed into the woods.

"Ka-Bar" Camp Set

Various cutlery companies offer from time to time many and varied knives of interest to sportsmen. Of particular interest to campers, hikers and riders is a new item just offered by the Union Cutlery Company which is a combination knife, fork and spoon. It is made of stainless steel and will serve many purposes for individuals who go frequently into the woods.



For over 50 years this splendid pine has withstood the storms and grown to attain its position of outstanding prominence.

It well illustrates the position of KELLY AXES... For over 50 years they have sustained their reputation for DEPENDABLE QUALITY.

AXES
BUSH HOOKS
FIRE RAKES
GRADING HOES

TRADE MARK
TRUE TEMPER
KELLY
QUALITY

FOREST
FIRE
FIGHTING
TOOLS

MANUFACTURED BY
THE AMERICAN FORK & HOE CO., Cleveland, O.
(Any Hardware Dealer Can Supply)

Tremendous Savings On CAMERAS and SUPPLIES

Hundreds of **BIG BOOK**
Fine Bargains **FREE!**
Listed in Our

Everything photographic, Still and Movie: Cameras, Lenses, materials and equipment, the finest, most complete line of American and imported merchandise in the country, priced at the lowest figures you ever heard of. Every item positively guaranteed. Thousands of customers know they save as much as half when they buy here. You'll find exactly what you want, listed and illustrated in our Free Bargain Book—thousands of photographic items—

Every One a Super-Value

It also contains equally sensational bargains in Binoculars, Microscopes and Weather Instruments. Write today, now, for this money and time saving bargain book. It is Free. You need a copy always handy. It pays big dividends.

CENTRAL CAMERA CO.

(Estab. 1899)

Dept. P.3, 230 S. Wabash Ave.

Chicago, Ill.

University of Maine

Orono, Maine

The Forestry Department offers a four-year undergraduate curriculum, leading to the degree of Bachelor of Science in Forestry.

Opportunities for full technical training and for specializing in forestry problems of the Northeast. Eight-weeks' camp course required of all Seniors in Forestry, in practical logging operations, on Indian Township, Washington County, Maine, under faculty supervision.

For catalog and further information address

**FORESTRY DEPARTMENT,
University of Maine
ORONO, MAINE**

Trees of Note in Connecticut

Photographs and descriptions of notable Connecticut trees. An attractive book of historical and general interest.

Compiled for the Connecticut Daughters of the American Revolution by

KATHARINE MATTHIES

Available at \$1.25 a copy from the author
255 Whitney Avenue, New Haven, Conn.

A FOREST SAVED IS A FOREST RAISED

TREE SHRUB

SEED

FOR THE NURSERY

Write for Wholesale Pricelist
with Forestry Cultural Notes

Herbst Brothers

INC.

Wholesale Tree Seed Specialists

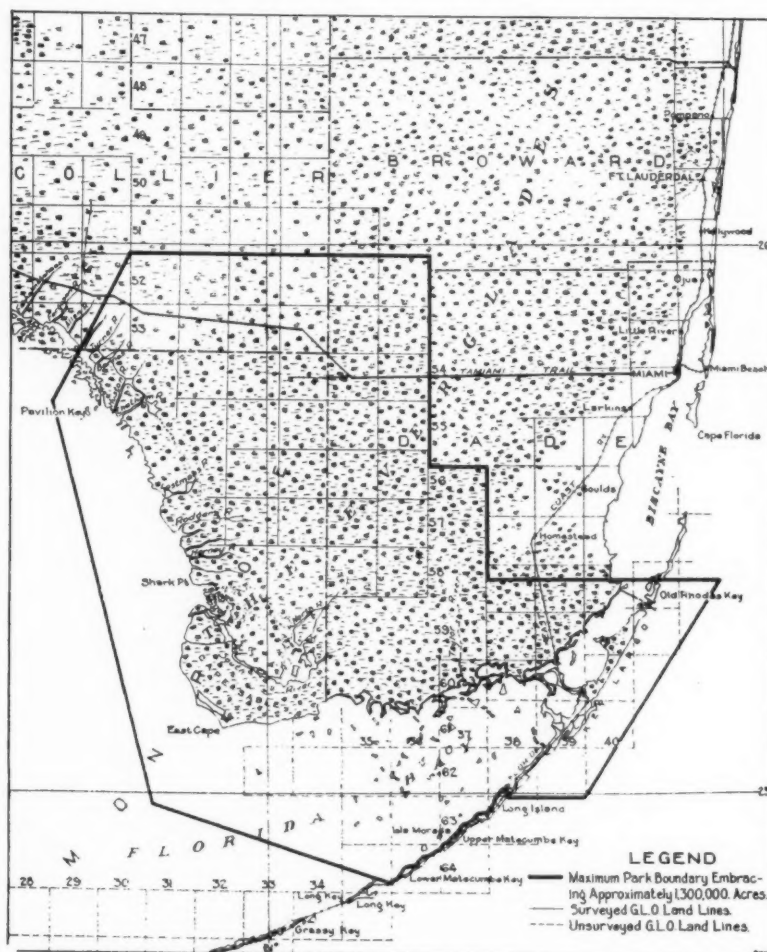
Office and Warehouse 92 Warren Street
New York, N. Y.

BOUNDARIES FOR EVERGLADES PARK RECOMMENDED

The boundaries of the proposed Everglades National Park, in Florida, as recommended in 1930 by Dr. Ray Lyman Wilbur, then Secretary of the Interior, have been approved by the special committee of the National Park Service assigned to study and investigate the area. As recommended, the northern boundary of the Park will extend on an east-west line about fifteen miles north of the Tamiami Trail. The southern boundary includes Cape Sable and a portion of the so-called 10,000 islands in the Bay of Florida, bounded toward

tunity to preserve the unique plants and animals of this region for future generations to see and study is undoubtedly the strongest argument for the creation of the National Park."

The committee emphasized its recommendations with the added statement that "The proposed maximum boundary line encloses really only a maximum area necessary to carry out even reasonably the objectives for which the park is to be established. A considerably larger area would be corresponding-



Map showing the recommended boundary of the Everglades National Park.

the east by the Florida keys and a large portion of Key Largo.

Dr. Harold Bryant, Assistant Director of the National Park Service, headed the committee. The area recommended includes approximately 1,300,000 acres in Dade, Monroe and Collier counties.

The original area was decided upon by the committee because of its belief that conservation will thus be best served. "A small area gives less safety to those species needing protection than a large area," the committee stated. "As a National Park of large size, there is afforded opportunity to reserve great areas and keep them undisturbed and free from human intrusion. By this means only can primeval wilderness be retained unmodified and bird and animal life afforded full opportunity for normal increase. The oppor-

ty much more desirable and we trust will be possible of attainment sometime in the future."

With regard to the extension of the park north of the Tamiami Trail, the committee called attention to stands of cypress such as are not present in any existing National Park, and where the fast disappearing swallow-tailed kite, the limpkin and the wood ibis have breeding and nesting areas. It was further stated that any commercial development of this northern area involving drainage would injure the region to the south.

After the boundary recommendations have been accepted by the Secretary of the Interior, responsibility for acquiring the area preparatory to giving it to the United States Government will rest with the Tropic Everglades National Park Commission, created May 25, 1929.

When Writing Advertisers—Mention AMERICAN FORESTS

SAPLING SAM'S COLUMN

**Fame**

Caruso was once motoring on Long Island, when his car broke down. Entering a farm house, the farmer asked him his name.

"Caruso," said the singer.

"Good gracious!" exclaimed the farmer, throwing up his hands, "Robinson Caruso, the great traveler. Well, sir, I never expected to see such a notable man as you in my kitchen."

—The Kablegram.

Relative Importance

The doctor was examining school children. One youngster was under weight.

"You don't drink milk?"

"Nope."

"Live on a farm and don't drink milk at all?"

"Nope, we ain't hardly got enough for the hogs."

Why Is a Meadow?

Prof. of English: "What is a metaphor?"

Freshman: "To keep cows in."

Our Own Dictionary

Seed: Past tense of see.

Horse: From a cold.

Whoa— is me.

Crop: Game played with dice.

Fodder: Male parent.

Stuck!

Smart City Visitor (showing a chestnut burr): Say, Rube, what d'ye call this?

Rube: You dern fool! that's a porcupine's egg.

"The Mule She Are—"

Being told to write an essay on the mule, a small boy turned in to his teacher the following effort:

"The mawl is a hardier bird than a guse or turkie. It has two legs to walk with, two more to kick with, and wears its wings on the side of its head. It is stubbornly backward about coming forward."

True of Most Fish Stories

Fisherman—I tell you it was that long. I never saw such a fish!

Friend—I believe you.—*Wall Street Journal*.

Justice

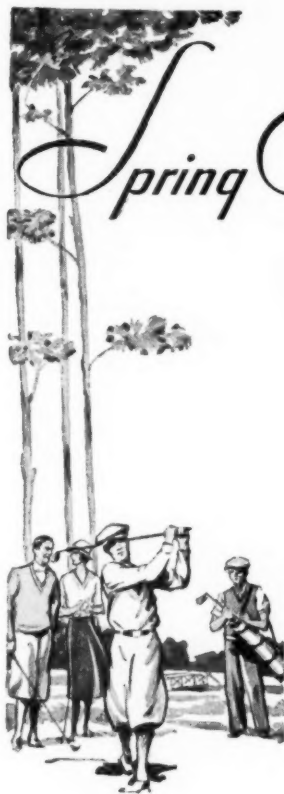
"I had the right of way when this man ran into me, yet you say I was to blame."

"You certainly were."

"Why?"

"Because his father is mayor, his brother is chief of police, and I'm engaged to his sister."

—The Kablegram.



SIDNEY BANKS
Managing Director

THE



CAVALIER HOTEL

VIRGINIA BEACH
VIRGINIA



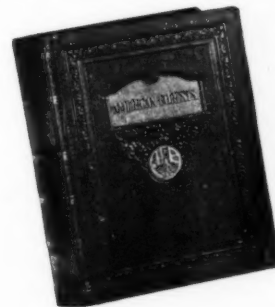
ORDER YOUR BINDER
NOW!

\$2.50 Each

Order today and protect
your Magazines

THE AMERICAN
FORESTRY ASS'N

1713 K STREET, N. W.,
WASHINGTON, D. C.



SPECIAL BOOK OFFER

THREE DRAMATIC
PUBLICATIONS

All for \$4.00

Youth Rebuilds

Stories From the C. C. C.

A triumphant response of American youth to a fighting chance to rebuild themselves . . . A book of personal experiences, written by thirty-seven enrolled members of the Civilian Conservation Corps.

PRICE \$2.00

Rangers of The Shield

THE STORIES U. S. FOREST
RANGERS TELL AROUND
THEIR CAMPFIRE

The Adventure of Protecting and Administering the National Forests of the West . . . Dramatic Battles with Forest Fires . . . Stirring Man-hunts . . . Exciting Encounters with Wild Animals . . . Range and Timber Disputes . . . Thrilling Experiences in the Life of the Guardians of the Forests.

PRICE \$2.00

TWELVE OF THE MOST
BEAUTIFUL

Photographs of Trees

Published in
"AMERICAN FORESTS"

A portfolio collection any lover of trees will treasure. Printed on heavy ivory paper 9" x 12", with antique cover binding.

PRICE \$1.00

Take advantage of this offer today and add these publications to your library.

The Set Complete, Postpaid, \$4.00

AMERICAN FORESTRY
ASSOCIATION

1713 K STREET, NORTHWEST
WASHINGTON, D. C.

AMERICAN FORESTERS HOLD 31st ANNUAL MEETING

President Franklin D. Roosevelt was awarded the Schlich Forestry Medal for "noteworthy achievement for the advancement of forestry" by the Society of American Foresters on January 29. Award of the medal was a feature of the thirty-fourth annual meeting of the Society in Washington, D. C., January 28, 29, and 30. The presentation was at the White House, where the President received a committee of the Society composed of H. H. Chapman, president, Earle H. Clapp, vice-president, and Franklin W. Reed, executive secretary. President Roosevelt is the first American to be honored with the Schlich Medal, which commemorates the world famous German forester of that name.

In accepting the medal, the President said: "I consider the social point of view of foresters as most essential to the success of their profession. Forests require many years to mature; consequently the long point of view is necessary if the forests are to be maintained for the good of our country. He who would hold this long point of view must realize the need of subordinating immediate profits for the sake of the future public welfare."

"A forest is not solely so many thousand board feet of lumber to be logged when market conditions make it profitable. It is an integral part of our natural land covering, and the most potent factor in maintaining nature's delicate balance in the organic and inorganic worlds. In his struggle for selfish gain, man has often heedlessly tipped the scales so that nature's balance has been destroyed, and the public welfare has usually been on the short-weighted side. Such public necessities, therefore, must not be destroyed because there is profit for someone in their destruction. The preservation of the forests must be lifted above mere dollars and cents considerations."

"For this reason, I consider the conservation provision of the Code adopted by the lumber industry as a great step toward recognition of the social value of the forests. The essence of this provision should be retained no matter what other changes may be in the Code."

"The handling of our forests as a continuous, renewable resource means permanent employment and stability to our country life. The forests are also needed for mitigating extreme climatic fluctuations, for holding the soil on the slopes, retaining the moisture in the ground, and controlling the equable flow of water in our streams. The forests are the 'lungs' of our land, purifying the air and giving fresh strength to our people. Truly, they make the country more livable."

"There is a new awakening to the importance of the forests to the country and if you foresters remain true to your ideals, the country may confidently trust its most precious heritage to your safe keeping."

In his annual address to the foresters on January 28, President Chapman reviewed the accomplishments of the Civilian Conservation Corps, the Soil Erosion Service, the Tennessee Valley Authority, the expanded program of forest purchases and the plans for the prairie shelterbelt. The forestry profession, he declared, is behind the President and his emergency conservation work. With reference to the extensive tree plantings contemplated in the prairie states, he said, "Foresters are in favor of the effort to extend and encourage the planting of windbreaks and shelterbelts in the regions exposed to climatical rigors. * * * They hold, however, that this project should be guided by the accumulated experience of half a century of technical work and not start again from scratch, with ideas unchanged as a result of this experience."

Stressing the ideals of public service, Chief Forester Silcox said, "The forests of the country must regain and hold permanently their place as sources of employment in every forest region. They must become centers around which communities may be assured a stable existence. Human welfare, opportunities for useful employment, permanent communities, and all the other social benefits that flow from productive forests must be our goal." In an itemized program for continuous forest production the Chief Forester proposed that "The Federal Government or the States should undertake the logging and if necessary the milling of their own timber where this is desirable for the maintenance of existing communities, the creation of permanent employment or the production of cheap material to supply local needs."

Article X of the Lumber Code was discussed by David T. Mason, Executive Officer of the Lumber Code Authority; John B. Woods, Chief of the Department of Forestry of the Lumber Code Authority; A. E. Wackerman, Division Forester with the Southern Pine Association; Wilson Compton, of the National Lumber Manufacturers Association; B. F. Heintzleman, in charge of Lumber Code Cooperation with the Forest Service, and others.

An evening session was devoted to forest education, during which papers were presented by President Chapman and Professor C. H. Guise, of the Department of Forestry at Cornell. Dean S. T. Dana, of the School of Forestry and Conservation, University of Michigan, was elected chairman to continue the work of this division.

In the discussions on state forestry special emphasis was given to the possibilities of acquiring state forests with and without Federal aid, and on the last afternoon the use and control of fire in the coastal plains of the South was discussed.

MASSACHUSETTS COURT UPHOLDS BILLBOARD LAW

Advertising on public ways and on private property within public view may be regulated and restricted by law, according to a recent decision of the Massachusetts Supreme Court.

In discussing the right of a state to regulate outdoor advertising, the Court said: "The right to own land to use according to the owner's conception of profit is in the main a part of the liberty secured to the individual under the Constitution, but that right is subject to legislative regulation in the public interest."

The Court also pointed out that advertising companies are exercising more than a "natural right" in their commercial utilization of highways and highway traffic. Such a practice, the court said, constitutes "seizing for private benefit an opportunity created for

quite a different purpose by the expenditure of public money in the construction of public ways." The court also drew a distinction between highway advertising and other forms, remarking:

"In the case of newspapers and magazines there must be some seeking by the one who is to see and read the advertisement. The radio can be turned off, but not so the billboard."

Other grounds on which the court upheld the state regulations were those of traffic safety, preservation of scenic grandeur, pleasurable travel, maintenance of property value in residential areas and the securing of maximum benefits from public parks.

Conservation Calendar in Congress

Published monthly while Congress is in session as a service to the members of The American Forestry Association. This calendar contains bills introduced in the First Session of the Seventy-fourth Congress between January 10 and February 10, as well as any action taken on bills previously listed.

APPROPRIATIONS

- H. R. 5255—OLIVER—Appropriations for Department of Commerce. Report No. 53. Passed House February 8.
H. J. Res. 117—BUCHANAN—Making appropriations for relief purposes. Reported from the Committee on Appropriations January 23. Report No. 15. Passed House January 24.

NATIONAL FORESTS

- S. 462—McNARY—Extension of exchange authority and addition of public lands to Willamette National Forest in Oregon. Report 30. Passed Senate January 31.
S. 378—KING—Protection of watersheds in and adjacent to National Forests. To Agriculture and Forestry January 7.
S. 464—McNARY—Adding lands to Malheur National Forest in Oregon. Report 29. Passed Senate January 31.
H. R. 4983—COLMER—(S. 1471—BILBO) Transferring forest reservation lands in Forrest and Perry Counties, Mississippi, to State of Mississippi. Passed House February 1.
S. 1679—McNARY—Adding certain lands to Rogue River National Forest in Oregon. Introduced February 6.
S. 1680—McNARY—(H. R. 4459—PIERCE) Including in Deschutes National Forest, Oregon, certain public lands. To Agriculture and Forestry February 6.

NATIONAL PARKS

- H. R. 5233—ROBSON of Kentucky—(H. R. 5446—TAYLOR) To authorize \$100,000,000 to locate and construct the "Eastern National Park-to-Park Highway" through Virginia, North Carolina, Tennessee, Kentucky, West Virginia and the District of Columbia. To Roads February 1.
H. R. 5368—FERNANDEZ—Adding land to Chalmette National Monument in Louisiana. To Public Lands February 5.
H. R. 4307—ENGLEBRIGHT—Exchange of privately owned lands within Lassen Volcanic National Park for lands within Lassen Volcanic National Forest, California. To Public Lands January 21.
H. R. 4250—SISSON—(H. R. 4249—SISSON) (S. 739—WAGNER) (S. 1676—WAGNER) Establishing a National Monument on site of Fort Stanwix, New York. To Public Lands January 18.
S. 1339—SHIPSTEAD—Establishing Pipestone Indian Shrine in Minnesota. To Public Lands and Surveys January 22.
H. R. 4875—DEEN—Establishing a National Monument at Fort Frederica, Georgia. To Public Lands January 28.

STATE PARKS

- H. R. 1396—LEA of California—Use of certain islands and parks in Pacific Ocean for California State Park System. To Public Lands January 3.
S. 1662—JOHNSON—(H. R. 1994, H. R. 1995, H. R. 1997—BURNHAM) Selection of lands in California for California State Park System. To Public Lands and Surveys February 6.

WILDLIFE

- H. J. Res. 157—CROWE—Agreement between Kentucky and Indiana with respect to hunting and fishing privileges on Ohio River. To Judiciary February 5.
House Report No. 1—ROBERTSON—Report of Committee on Wildlife Resources pursuant to H. Res. 237 (Seventy-third Congress). January 4.
H. R. 3993—BERLIN—Prohibiting the killing of migratory waterfowl during the period from July 1, 1935, until July 1, 1936. To Agriculture January 16.

FLOOD CONTROL

- H. Res. 47—Requesting Secretary of Interior to report for benefit of flood control, etc., in California, Nevada and Arizona. To Flood Control January 11.
H. R. 5435—DRIVER—Flood control of St. Francis River in Missouri and Arkansas. To Flood Control.
H. R. 3623—RAMSAY—Flood control of Monongahela River Basin and Kanawha River Basin; agricultural and industrial development of said valleys. To Flood Control January 10.
H. R. 3621—GREENWOOD—Flood control of Wabash and White Rivers. To Flood Control January 10.
S. 869—POPE—(H. R. 2790—KNUTE HILL) For the flood control of Columbia River. To Agriculture and Forestry January 14.
H. R. 4683—WITTHROW—(H. R. 4684—KVALE) (H. R. 4685—DIRKSEN) Flood control of upper Mississippi River, reforestation and agricultural development of upper Mississippi River Basin, etc. To Flood Control January 24.
H. R. 4241—WEARIN—Flood control of Mississippi River and Missouri River; reforestation and development of Mississippi and Missouri Valleys, etc. To Flood Control January 18.
H. R. 4122—BUCK—(H. R. 4128—STUBBS) (5429—BUCK) Flood control of San Joaquin and Sacramento Rivers. To Flood Control January 17.
H. R. 4545—WILSON—Emergency appropriation for Flood control and protection in areas where human life and property are endangered. To Flood Control January 23.

MISCELLANEOUS

- H. R. 4143—DEEN—Authorizing R.F.C. to make loans to aid in financing construction of paper-pulp mills. To Banking and Currency January 17.
H. R. 4676—RANKIN—(S. 1400—BACHMAN) Extending provisions of Tennessee Valley Authority Act to Tombigbee River and Bear Creek Basins. To Military Affairs January 24.
H. R. 5065—HOLMES—To enable the Secretary of Agriculture to control and eradicate the Dutch elm disease in the New England States. To Agriculture January 30.
Document No. 84—President Roosevelt's message transmitting report of National Resources Board and of Mississippi Valley Committee of Public Works Administration, January 24, 1935.

When Writing Advertisers—Mention AMERICAN FORESTS

LOOK
FORWARD
TO



Fun!
POINT the prow of an Old Town toward real pleasure. Exploring. Hunting. Fishing. Miles and miles of fun . . . Indian-fashion. Own an Old Town Canoe. It's a tough twin of the birch-barks. Quick. Light. Easy to paddle or portage.

Get a free illustrated catalog. See all the different models and prices (starting at \$68). Sponsons, sailing canoes, square-stern types. Also a fleet of outboard boats, including big, fast, seaworthy craft for family use. Rowboats and dinghies. Write to Old Town Canoe Company, 153 Main Street, Old Town, Maine.

"Old Town Canoes"

PATRONIZE OUR ADVERTISERS

In responding to advertisements, be sure to mention AMERICAN FORESTS Magazine.

If you do not happen to find what you want in the advertising columns, write us direct for full information. We can find it for you.

The American Forestry Association
1713 K St., N. W. Washington, D. C.

Classified Ads

Advertisements from reputable individuals and concerns will be inserted under this head at the rate of 10c a word per insertion, cash with order. Display rates on application. No advertisement will be inserted for less than \$1.00. Abbreviations, initials and letters will be counted as words. Name and address must be given, so advertisements will not be inserted in this section with only a box number. Address all orders to Classified Advertising Department, AMERICAN FORESTS Magazine, 1713 K Street, N. W., Washington, D. C.

Attract Wild Ducks & Fish
with Wild Rice, Wild Celery,
Duck Potato and 38 others
described in free literature. Write for low
prices. Many years of experience.
WISCONSIN AQUATIC NURSERIES
Box 331-K, Oshkosh, Wis.

SURE-GROWING PLANTS
For Lake and Stream Im-
provement. 39 Years' Success.
Describe Place. Suggestions Free.
TERRELL, Naturalist, OSHKOSH, WIS.

COLORADO BLUE SPRUCE

From the BLUEST of the BLUE trees. I will Prepay them to you for 4c each—in lots of not less than 25 Trees. Trees are 3 years old. I pack them so they get to you in good growing condition. H. D. Belcher, Brook Forest, Colo.

Forest Seeds

We offer all from 1934 crops: Pound
Norway Spruce, a superior lowland strain \$2.00
from planted forests in Northern Europe.
Norway Spruce, North Central Europe, 1800-
2700 altitude 2.00
Straight Timber Scotch Pine, a superior
grade of *Pinus sylvestris*, first introduced
by us in 1926 from Prussia 3.50
Austrian Pine, best Pine for wind-breaks 1.50
Black Locust .50

Northern Red Oak, New England seed \$18.00
Per 100 lbs.

Our descriptive catalog with information pertaining to characteristics, usefulness, soil and climatic requirements, origin of trees and shrubs suitable for forest planting, game and bird protection, is gladly mailed upon request.

F. W. SCHUMACHER

P. O. Box 131 Jamaica Plain, Boston, Mass.

Peonies

TREE PEONIES, finest named varieties. Herbaceous Peonies, best varieties. Oberlin Peony Gardens, Sinking Spring, Pa.

Nursery Stock

RARE HARDY AZALEAS, RHODODENDRONS, Evergreens, Yews, Flowering Trees, Japanese Maples, Magnolias, Purple Beeches, Pink Dogwoods, 5 to 75 cents each, send for list. Alanwood Nursery, Neshaminy, Bucks Co., Penna.

GUESSING TIMBER COSTS MONEY

Measure the Amount of Timber on Your Southern Pine Woodland or Forest with Our Specially Designed

LOG-SCALE STICK

and

TREE-SCALE STICK

—You can quickly and accurately tell how much lumber in board feet your logs of any kind will saw out by careful sawmilling (the International Log Rule), also what they scale by the Doyle Rule.

—You can quickly and accurately tell how many 16-foot cuts there are in standing trees.

—You can quickly and accurately estimate the contents in board feet (by the Doyle Rule or the more accurate International Rule) of standing trees of the Shortleaf, Longleaf, Slash or Loblolly Pines.

Only \$1.00 a set, Postpaid

THE AMERICAN
FORESTRY ASSOCIATION

1713 K St. N. W. Washington, D. C.

Federal Aid Sought for State Forests

Authority to purchase lands outside of the accepted National Forest Purchase Areas with permission to turn them over to the states for administration as state forests, will be sought in Congress for the National Forest Reservation Commission. The plan has the approval of the United States Forest Service and State Foresters throughout the country.

As outlined by Harry Lee Baker, State Forester of Florida, and President of the Association of State Foresters, the bill, already prepared, contemplates cooperative agreements between each state and the Federal Government. Areas for the development of state forests will be mutually agreed upon; the land when acquired by the government will be turned over to the states for administration and one-half of the gross receipts from its use and from the sale of forest products will be paid to the United States and held in the Treasury until these sums equal the total amount expended in acquisition. Title will then be transferred to the states.

The Federal aid contemplated by the bill would be conditional upon employment by the State of a trained State Forester with a stable and efficient organization free from political influence; the development and enforcement of satisfactory tax delinquency laws; and the preparation and enactment of plans for administration, development and management of the lands satisfactory to the Secretary of Agriculture.

The lands would be placed under state administration as they are acquired. Should an agreement be terminated before completion of the contract the lands will be held by the Federal Government and administered as National Forests.

Marsh Resigns As C.C.C. Educational Director

Clarence S. Marsh, Educational Director of the Civilian Conservation Corps, resigned late in January to become Associate Director of the American Council on Education. His resignation will become effective as soon as his successor is chosen.

Mr. Marsh was appointed to head the C.C.C. educational work on December 28, 1933, being drafted from the University of Buffalo, where he was Dean of the School of Business Administration. Under his direction, individual programs of instruction have been established in each of the Civilian Conservation Corps camps. The system was designed to incorporate the best features of educational facilities available in the camps, aiming toward the development of a unified, informal program to best fit the needs, capabilities and desires of the enrolled members. To assist Mr. Marsh, educational advisors were placed in each camp, in the various districts, and in the nine Army Corps Areas.

C.C.C. Makes Ready for Expansion

With its expansion practically assured, the Civilian Conservation Corps is awaiting only the passage of the \$4,000,000,000 works program by Congress and the word of the President before entering an era of increased activity in protecting and developing the natural resources of the nation.

Work plans based on a Corps of 600,000 young men, war veterans and Indians are now being formulated and should be completed by March 1. These plans, it was learned, provide for a great increase in soil erosion work and forest protection, the latter mainly on National and State Forests. Activities aiming toward the development of outdoor recreation

will not be materially increased. It was also stated that from seven to ten camps will be established on the Public Domain to develop and improve grazing and livestock conditions. Drought relief camps are slated to be abolished.

The number of war veterans and Indians now under the Civilian Conservation Corps will not be materially increased, it was said, the additional 300,000 men being selected from unemployed young men throughout the country.

From \$500,000,000 to \$700,000,000 from the \$4,000,000,000 works program will be needed to double the strength of the Corps.

Redington Named Supervisor of Shoshone National Forest

Paul G. Redington, former chief of the Biological Survey and now a member of the Forest Service, has been assigned to take charge as Forest Supervisor of the Shoshone National Forest, Wyoming, with headquarters at Cody, Chief Forester F. A. Silcox announced February 6. He succeeds Forest Supervisor J. N. Langworthy, who retired February 1.

Cagey Critters

The remarkable photograph reproduced on the cover of this month's issue of AMERICAN FORESTS was taken by Mr. M. S. Benedict, Supervisor of the Sawtooth National Forest, Idaho. The alert and watchful animals portrayed are Mr. Benedict's own saddle horses which he uses in riding the mountainous domain which forms his forest. He has titled the picture "Cagey Critters," a title that will be fully expressive to all who have followed the pack trail.

Every forest man loves his horses, but, as he well knows by experience, they at times become most irritating and tantalizing when they take it into their heads to become cagey or hard to catch. In submitting the picture, Mr. Benedict in the following little sketch describes this contrary trait of the forest man's best friend.

"Come Red—Come Bill—Come Koaly"—voicing your best come-hither tones, you ease in on them through the frosty grass. Lead ropes are held behind you, and a hand stretches forth in humble entreaty.

"They seem to think you are a perfect stranger, so you stop a moment to quiet their fears, to show them you are their ever-indulgent master. Take Red there—raised from a colt with never a whip or spur put on him. And Koaly, why you've nursed him through a score of cuts and sprains and spells of colic. Always the best of hay and grain, with a nice warm barn for the long winter.

"Fortified by these facts, you edge forward with more confidence—very slowly slide up to Red, pat his shoulder and start the tie that binds. Red, the mug, makes sure there are no oats, and at the crucial moment swings away with a snort that has the rest of the bunch plunging around like outlaws.

"Of course, shaking oats in a pan is the one unfailing lure for these rascals. Ranger Lew had a string which, without grain, were almost impossible to catch, hobbles or no hobbles. Running out of oats one day, he used, instead, a pan full of sand. His pack mule 'Jack' crowded in, greedily took a big bite, then, quick as a flash whirled and planted two hind feet in Lew's amidships. We tried to get compensation for Lew, but the commission intimated that dog-gone mule had used rare judgment in forcing Lew, also, to bite the dust."

Injuries Prove Fatal to Mrs. John D. Sherman

Mrs. John Dickinson Sherman, noted conservationist and club leader, died in Denver on January 15 as the result of injuries received in Washington, D. C., on October 19, when she was struck by a bus. She was seventy-two years old. Despite her advanced years, she was still active in many fields, especially conservation and women's club work.

In 1924 Mrs. Sherman was elected to the Board of Directors of The American Forestry Association,—the only woman ever to serve on the Board. As a trustee of the National Parks Association, she was influential in the establishment of the Rocky Mountain and other National Parks. She was a member of the National Conference on Outdoor Recreation. As presidential commissioner on the United States George Washington Bicentennial Commission, in charge of the activities of women's organizations, she formulated the plan whereby thousands of clubwomen throughout the country planted millions of trees in honor of George Washington.

Mrs. Sherman began her career in women's club work as secretary of the Chicago Women's Club. She was elected president of the General Federation of Women's Clubs in 1924, serving until 1928, when she became chairman of the American Home Department of that organization. Two years later she was elected honorary president of the Federation.

During the World War, Mrs. Sherman was a member of the National War Gardens Commission and assistant to the director of the School Garden Army of the Bureau of Education, Department of the Interior. Mrs. Sherman was at one time an instructor in parliamentary law at the John Marshall Law School in Chicago, and was the author of the book, "Parliamentary Law and the Rules of Procedure."

Idaho Protests Game Regulation by Forest Service

The power to control hunting, fishing and general management of game on National Forests by Forest Service officers, as authorized by Secretary Wallace on March 29, 1934, was disapproved and condemned by the Idaho State Legislature in a Senate Joint Memorial passed on February 7.

Although the Forest Service has not enforced the regulations in any state, and proposes to apply them only to situations where action by the Federal Government is necessary to effect proper wildlife management on National Forests, the memorial urges that they be withdrawn. This is on the ground that they largely nullify the work of the Idaho Fish and Game Department and violate the Admission Bill by which the State of Idaho became a part of the Union.

North Carolina Association Favors Public Acquisition of Forest Land

Although endorsing the program now being undertaken by federal and state governments for the acquisition and development of federal and state forests and parks, the North Carolina Forestry Association, at its annual meeting on February 6, held that "timber grown on public forests should be harvested and manufactured, except in emergencies, through private agencies."

Discussion on the subject of acquisition was led by F. A. Silcox, Chief, United States Forest Service, and James G. K. McClure, President, North Carolina Forestry Association.

Protection of Admiralty Island Bears Provided

A management plan designed to protect and perpetuate the brown bears on Admiralty Island, Alaska, concerning which there has been much controversy during recent years, has been announced by the United States Forest Service. The Island forms one unit of the Tongass National Forest and the administration of its natural resources, therefore, comes under the jurisdiction of the Forest Service. From time to time charges have been made that the Service has not given adequate consideration to the perpetuation of the bear population of the Island. Based upon these representations, a movement was started several years ago to make the Island a bear refuge, thus excluding the utilization of other resources.

The Forest Service has consistently contended that it is possible to protect and perpetuate the brown bear in relation to other resources of the Island without making the region an inviolate wildlife sanctuary.

The plan in question is designed to carry out that principle. It coordinates the management of the bear with other present and prospective activities on the Island and provides that all activities shall be so regulated as to insure the perpetuation of the bears in satisfactory numbers. A recent survey, the plan states, indicates that the present bear population of the Island approximates 900, or one bear to every two square miles, and that the objective will be to maintain that population. An effort will be made to increase the numbers in the event experience shows it to be feasible without undue interference with the use of other important resources. Hunting will be permitted but only to remove allowable increases as determined by field studies from time to time. In the event over-hunting should develop, closed seasons will be resorted to, or the annual bag limit curtailed. Seasonal closings of portions of the Island, the plan provides, may be resorted to if protection of the bears dictates. The types of refuges provided include (1) areas with a heavy stocking of bear in the spring when the cubs are small; (2) small heavily-stocked areas of ready accessibility where bears can be observed by naturalists, photographers, and the general public; (3) lands in the general vicinity of logging camps, and other centers of seasonal occupancy where it is necessary to control casual or illegal killing; and (4) general recreation areas, or small tracts to be administered solely for recreational purposes.

The carrying out of the provisions of the plan will form a joint project of the Alaska Game Commission and the Alaska region of the Forest Service. The Biological Survey will cooperate in so far as possible in scientific studies of game problems that cannot be handled by the commission alone or with the assistance of the Forest Service.

During the active salmon-spawning period, when the bears are congregated on the salmon streams, the plan provides that the commission will maintain a launch patrol around the Island to afford an extra protection to the animals. The Forest Service with its service launches and its forest rangers, who will be designated as game wardens for the commission, will supplement this intensive protection patrol.

Information on the brown bear situation on the Island, and details of the management plan, are contained in United States Department of Agriculture Miscellaneous Publication No. 195, just published, obtainable from the Superintendent of Documents, Washington, D. C., price five cents.

The New York State College of Forestry

SYRACUSE, N. Y.

Undergraduate courses of four years are offered in forestry leading to the degree of Bachelor of Science. There is also opportunity for graduate work in several branches of forestry leading to advanced degrees.

The College has ample laboratories and classrooms in William L. Bray Hall and the Louis Marshall Memorial Building. It has forest properties approximating 20,000 acres that serve for demonstration, research and instruction in forestry.

Special laboratories for instruction in wood technology, in pulp and paper-making, in kiln-drying and timber-treating and a portable sawmill are other features of this institution.

Catalog Mailed on Request
SAMUEL N. SPRING, Dean

School of Forestry

University of Idaho
MOSCOW, IDAHO

Offers thorough training in Practical Forestry, preparing for Federal, State, and private work.

Four and Five Year Courses, leading to the degrees of Bachelor of Science in Forestry and Master of Science in Forestry respectively.

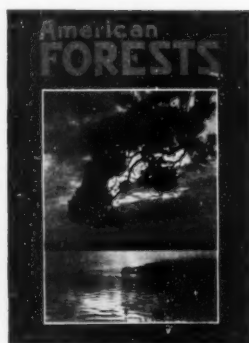
Opportunity is given to specialize in General Forestry, Logging Engineering, and Range Management.

Large logging and milling operations, important wood-working industries, also extensive Federal, State, and private forests, near at hand. Excellent opportunity for summer employment.

Write for further particulars

RICHARD E. MCARDLE, Dean

Application for Membership in The American Forestry Association



American Forests is sent monthly to Members

Date _____
The AMERICAN FORESTRY ASSOCIATION,
 1713 K Street N. W., WASHINGTON, D. C.:

I hereby apply for membership in The American Forestry Association and enclose \$_____

INDICATE CLASS OF MEMBERSHIP DESIRED

- ☐ Subscribing Membership, per year..... \$4.00
☐ Contributing Membership, per year..... 10.00
☐ Sustaining Membership, per year..... 25.00
☐ Life Membership (no other dues for life) ... 100.00
☐ Patron Membership (no other dues for life) 1,000.00

Canadian Postage 25c extra, Foreign 50c extra, on Subscribing Memberships

Please Letter or Type Name and Address

Name _____

Street _____

City and State _____

Business or Profession _____

March, 1935

Sportsmen Limited to Three Shells

President Roosevelt, on February 8, approved a Federal regulation to require that sportsmen place not more than three shells in their automatic loading or other repeating shotguns. The regulation becomes effective immediately.

Guns now equipped with magazines holding five, six, or seven shells are required to have those magazines stopped up with plugs that cannot be removed in the field. Arms makers are to cooperate in cutting down gun capacities to three shells.

Back of this latest effort to give ducks and other migratory birds a better break in their efforts to dodge hunters, as reported by the Bureau of Biological Survey, is an alarming decrease in the number of these birds.

"Pressure from all quarters has become exceedingly great during the last few years as the annual toll of the hunters, plus the natural causes, have threatened with extermination some of our choicest species among the migratory waterfowl groups and reduced to the danger point nearly all varieties of ducks and geese," said J. N. Darling, Chief of the Bureau.

Financial Statement

THE AMERICAN FORESTRY ASSOCIATION
 WASHINGTON, D. C.

Balance Sheet as of December 31, 1934

ASSETS

Cash	\$ 10,921.89
General Fund Investment	9,100.00
Accounts and Notes Receivable	2,792.15
Interest Accrued on Investments	4,217.62
Inventories	6,311.18
Deferred Charges	506.27
Furniture and Fixtures	3,110.89
Special Revolving Fund	10,000.00
Endowment Fund (Including \$15,000 Reserve for Building Fund)	265,783.16
TOTAL	\$312,743.16

LIABILITIES AND CAPITAL

Accounts Payable	\$ 6,757.06
Reserves:	
Prepaid Memberships	\$22,274.88
Nut Tree Project	609.47
Magazine Anniversary Number	473.00
	23,357.35
Deferred Income	53.00
Surplus	282,575.75
TOTAL	\$312,743.16

INCOME AND EXPENSE ACCOUNT FOR YEAR ENDED DECEMBER 31, 1934 (Exclusive of Reserve Account Income)

OPERATING

EXPENSE

General Administration	\$23,959.68
Magazine	30,897.63
Membership Solicitation	10,116.74
Forester's Office	7,849.04
Educational Publicity	4,411.61
Net Income from Operations	6,417.95

INCOME

Membership Dues	\$50,520.67
Advertising (Net)	14,426.32
Interest	9,339.92
Donations	1,535.55
Forester's Office	3,168.00
Miscellaneous	2,511.57
Sale of Publications	2,150.62

TOTAL \$83,652.65

TOTAL \$83,652.65

NATIONAL NUT TREE PLANTING PROJECT

Income and Expenditures for the Year Ended December 31, 1934

EXPENSE

Salaries	\$1,869.65
Shipping Expense	1,170.59
Printing and Mimeographing	413.53
Publicity	215.30
Telegrams, Postage and Supplies	220.80
Nursery Charges	318.39
Auditing	40.00
Tree Markers	168.00
Uncollectable Pledges	655.00
Tax on Checks	3.96
Unexpended Balance, December 31, 1934	756.35

TOTAL \$5,831.57

INCOME

Unexpended Balance, January 1, 1933	\$5,143.64
Interest on Savings Account	59.43
Sale on Tree Markers	180.00
Donations	448.50

TOTAL \$5,831.57

TREES OF THE OLD HOMESTEAD

(Continued from page 111)

blackbirds assembled with great noise and commotion in the grove to organize for their flight South, we knew that the balmy autumn was near an end. Never do I see a blackbird that does not remind me of those talkative swarms of black travelers.

And there was work to be done in the grove, too. On winter, spring, or rainy days, my father took us boys with him there to cut the wood needed during the winter months to feed the great stove in the living room. Then he selected, and as we grew older, consulted us in the selection of the trees that should be cut. I received my first lesson in forestry there. At first I was not willing that any of them should be cut, nor for that matter did I relish the job of doing it. It seemed to me that there was room for them all to grow and that my father's explanation of the need for thinning was just another of those mistaken ideas of his that resulted in the destruction of some of my beloved trees, and incidentally placed on me a toilsome task. But the wisdom of the one thing and the justification of the other became apparent to me as the years went on.

My father talked much to me of the value of the cottonwoods as a protection for the horses, cattle, sheep, hogs, and even the chickens on the farm. He told us that because of the shelter the animals were more contented and ate less feed. That meant more dollars for us for food and clothes. That I could understand from the first. Of

the other things that I have talked of he did not say so much. I used to think that he did not notice them. But there again was another boyhood error of mine. I know now that it was not the expectation of future economic value that prompted him to plant these cottonwoods as one of his first acts toward making a home in that prairie wilderness. It was because with the vision of the born farmer and home maker, he knew that a house alone is not a home. He could not have realized all that the grove of cottonwoods would mean to the family that was to grow up there on the homestead that he settled on so many years ago. But he was to make a home, and so he planted trees. The farm was the home of a large family of boys and girls, and the trees were a part of it. When I try to picture it without them, it seems to me that it would have been intolerable. I think they meant as much to the others as they did to me. And they have meant much to the succeeding generations of boys and girls. They will be there for children to love and appreciate long after the man who planted them has gone to his reward.

I am glad that after the cottonwoods and I are gone, the maples and elms and black walnuts that I helped to plant will be there. The conquering of the prairies is no easy thing. It is done only by years of toil and hardship. Its fulfillment is measured by the prairie woodlots amongst which are the homes of its farmers.

ILLICIT TRAFFICKING IN BEAVER

(Continued from page 123)

men around the wilderness, but the hope of realizing this cardinal plan.

When another report reached the wardens that the outlaws had again been seen, and appeared to be getting ready for departure, nothing was spared to make the net impervious. A night and day vigilance was held with utter seriousness. For weeks the wardens scarcely dared steal enough sleep to sustain them. Then suddenly a report reached them that fairly sickened their spirits. All three outlaws had arrived in St. Paul. And it was estimated that the trio had sold to a "bootleg" dealer of hides one of the greatest catches in the history of the illicit traffic.

But returning to the days when the outlaws were still in the upper country, such eluding of officers seems unprecedented and deserves some detailing. The rich harvest of pelts in the possession of the outlaws was not to be moved without some careful planning. While two of the brothers remained in the upper country, the third made a careful journey to the frontier, where he learned through informants that all roads were blocked. This information was carried back to the interior. The trio also learned of their expected presence in Canada. Here they were, hemmed in on the north and east by Canadian officers, on the south by the cordon of state officers. To the west the forest extended for a hundred miles, with nature setting up her challenge of almost impassable travel.

The imminent necessity of a definite decision was obvious. One of the secrets of the outlaws' skill in travel in the overflow and ice of raging spring streams and rivers rested on the use of a small collapsible rubber boat, the weight of which was so moderate that it could be carried untold distances with ease. Where walking became impossible, the rubber boat formed an expedient means and was practically more an emergency buoy than anything else. In the journey west, every item of equipment was cached and abandoned except the boat, a

rifle and some salt. The beaver skins were arranged in three enormous packs for back packing; and with this poverty of equipment, they started their singular and dramatic plunge through the forest.

The suffering that the outlaws experienced is self-evident when it is considered that the hides were carried through the dense wilderness for seventy-five miles at a time when travel was almost impossible. By sleeping blanketless at intervals before a fire and killing what game was necessary for sustenance, the outlaws battled their way until they reached the hut of a fisherman on Lake Superior, whose friendship they had developed in days past. From him they obtained a launch, and facing further danger, they proceeded to transport their hides across the waters of Lake Superior. There they purchased a car and moved the hides to St. Paul.

But not many days after their return to the cabin on Lake Superior, an item of news reached the outlaws that carried a deeply wrought significance in the shaping of their future conduct. A change was scheduled in the state administration with new officials and a new force of wardens, followed by one of the most strikingly novel modes of procedure in the history of the state's administration.

In less than a week an officer of the state knocked on the door of their cabin. He greeted them cordially, and spread before their questioning eyes papers showing the new salary scale for wardens. The state, he told them, needed superior woodsmen to serve as wardens, and the brothers—well, their abilities were the talk of the North Country.

When the officer closed the door of the cabin, a peculiar transposition had taken place. Outlaws had turned wardens!

(What did this amazing move on the part of the state to suppress the illicit traffic in beaver lead to? Mr. Rutstrum will tell you in the April issue of AMERICAN FORESTS.)

FREE BOOK!

LIFETIME SECRETS OF BIRDS
It tells how song birds protect trees, plants and shrubs—save home owners thousands of dollars yearly. Which birds eat 2,000 Mosquitoes, Moths, insects, etc., a day. How they live and nest and the secrets of attracting them. Every home owner should get this wonderful book.



28 Room Martin House

Finest made. Durable Redwood, beautifully painted. WELL VENTILATED, easy to clean. Only \$18 F.O.B. Kankakee. Copper Roof \$4 extra.

Rid Your Grounds of Insect Pests—Let the Song Birds Do It

Add new life—new beauty to your home grounds. No place too small. The cheery songsters destroy all pests, save spraying costs, and bring joy and inspiration to young and old. Just send 10c to cover mailing and get 3 beautiful 7" x 9" Color Photo Bird Pictures and your FREE BOOK. Write today!

Mr. Dodson, America's Foremost Bird Authority, will gladly help you start a sanctuary with small outlay. Birds require special designed homes. Learn why Dodson Bird Homes attract them. Get Your Book and Pictures Today!

JOSEPH H. DODSON, INC.

123 Harrison St. Kankakee, Ill.

Bird Lodge



GREET THE SPRING!



In a smart, New Uniform
MADE-TO-MEASURE
of
ALL-WOOL MATERIALS
for
Forest Officers and Camp
Facilitating Personnel

Write for samples and latest prices.
Also information on Ready-Mades.

The Fechheimer Bros. Co.
Uniforms for nearly a half century.
Cincinnati Ohio



TREE SHRUB SEED FOR THE NURSERY

Write for Wholesale Pricelist
with Forestry Cultural Notes

Herbst Brothers
INC.

Wholesale Tree Seed Specialists

Office and Warehouse 92 Warren Street
New York, N. Y.

Sea Trout
Blues
4-25 to 11-25



Sportsmen
Families
Home Comforts



FISHING
at Wachapreague
Grade "A" 1"



"POPULARITY, HOTEL WACHAPREAGUE FISHING RESORT" is based on regularity, variety Fishing, Home Comforts, Good Eats. Boats with awnings, cabins, toilets. All kinds fishing tackle rent or sale. Bait costs, boots, caps—fish every day rain or shine. Best dates for channel bass, June, July, Sept. and early Oct. Hotel Wachapreague (Ocean Side), Eastern Shore, Va. Del-Mar-Va. concrete or express. Ownership Management, A. H. G. Mears, Wachapreague, Va.

(Please See Page 116)

THE NURSERIES

listed below have prepared lists of their trees in large sizes most suitable for F.E.R.A. tree planting projects, which they will mail to Officials of Public Properties who are planning to sponsor relief labor tree planting projects. In requesting copy of lists please mention

AMERICAN FORESTS

ANDORRA NURSERIES, INC.,
Chestnut Hill, Pa.

BOBBINK & ATKINS,
Rutherford, N. J.

JERICHO TURNPIKE TREE &
SHRUB NURSERY,
Syosset, L. I., N. Y.

LEWIS & VALENTINE COMPANY,
Ardmore, Pa.

LEWIS NURSERIES, INC.,
Roslyn, L. I., N. Y.

THOMAS B. MEEHAN COMPANY
Dresher, Pa.

WILLIAM H. MOON COMPANY,
Morrisville, Pa.

RAKESTRAW-PYLE COMPANY,
Kennett Square, Pa.

TOWSON NURSERIES,
Towson, Maryland.

SPECIAL SALE OF TREES AND SHRUBS

We have more than 100 acres of nursery stock, both evergreens and deciduous trees, on which our lease expires this Spring. Stock must be moved. Wide range of varieties and sizes, including large sizes most suitable for relief labor projects.

THE WILLIAM H. MOON CO.
Morrisville, Pa.

F.E.R.A. Money May Now Be Used For Rental of Tree Moving Equipment to Trans- plant Large Trees

Patented cradle movers, drays, trailers, hand-drawn lawn movers, roller skids, blocks and falls, anchor bars, crow bars, hand tools, etc.

Our tree moving equipment factory has manufactured and has available for rental the largest supply of modern tree moving equipment in the world. Send details of project and we will advise as to equipment required, with prices. ROSLYN TRUCKING & SUPPLY COMPANY

Roslyn, L. I., N. Y.

SHACKLING THE MOUNTAIN FLOOD

(Continued from page 104)

will deposit its load. Deposition is facilitated by forcing the streams to spread out over the basin. The utility of barriers in all probability would be short-lived and in time might become a menace to adjacent property, except where corrective measures are taken to control run-off at the headwaters of the drainages. Where control measures have been established at the heads of streams, barrier systems at the mouths of the canyons are justified as a temporary protection.

Man-made erosion control structures built on steep, sloping watersheds, at best must be considered merely supplemental and temporary. Following any erosion control program in which rehabilitation and protection of the plant cover is not included, the terraces and ditches will fill with silt and the dams and settling basins will be destroyed by erosion and debris. Lasting erosion control measures can be obtained only through a program of land utilization and management which will restore and maintain an effective plant cover.

The combination of terracing, planting and check damming may vary in different localities because of differences in topography, geology, soil, vegetation, and climate. Hence, every watershed must be analyzed and treated individually. However, the principles involved are basic to any control program and have as their object the reduction of surface run-off and soil erosion by inducing percolation of precipitation into the ground where it falls, until vegetation reclaims the denuded mantle and reestablishes the balance that made possible the accumulation and maintenance of the original soil. Such control aids in stabilizing the soil on the slopes, which is accomplished by keeping storm run-off spread out, by checking its progress down the slopes, and by preventing further erosion in the gullies. Thus, by lessening the volume and velocity of run-off, seepage of water into the ground is increased, and plant growth is promoted. Finally, the rainfall is prevented from accumulating into destructive flood proportions.

F.E.R.A. SPEEDS UP RECOVERY

(Continued from page 116)

mental evergreens, it leaves to the sponsors and local administrators the question of size and type of planting stock, both trees and shrubs.

Many tree and landscape experts advocate the planting of larger trees where labor is available. It is pointed out that trees, particularly evergreens, of from five to six feet in height are immediately decorative and useful in roadside improvement and that benefits to communities are thereby greatly enhanced. At the same time the planting of larger trees affords more opportunity for labor, thus keeping a proper ratio of labor to material cost. The larger the tree the more labor is required in its preparation, handling and planting. Another point to be considered is that there is a

surplus of trees five feet or more in height in the nurseries of the country, thus making them less difficult to obtain, and providing the sponsors with a greater range of healthy species.

Although emergency relief funds cannot be used for the purchase of trees and shrubs, the F.E.R.A. rules that labor paid by these funds may be used in digging and balling the trees in the nursery and transporting them to the scene of the project.

Sponsors contemplating spring planting should act immediately. The American Forestry Association will aid in any manner possible in the shaping of their plans. Address the Association at 1713 K Street, Northwest, Washington, D. C.

FROM OREGON'S JUNGfrau

(Continued from page 121)

arrived at Crater Rock three and a half hours later. The Portland firemen accompanied the pack train to supervise the use of the oxygen tanks and helmets.

At eleven o'clock Paul Williams, the forest lookout, and Gary Leach, mountain guide, were ready to start down into the crevasse, properly equipped with the oxygen helmets. This was the critical test. Each man was lowered by a rope with five men "paying out" each line. The rescuers went down two hundred feet. Leach had trouble with his oxygen connection and was overcome, though not until after he had helped fasten a rope to Von Norman's body. He was pulled to the surface and revived. Meanwhile one of the men hauling on the rope was overcome by fumes and had to be resuscitated. Williams worked on alone in the depths of the crevasse and finally, by the aid of eight men, was hauled back safely to the rim of the crater with his tragic burden.

During the whole of this performance radio communication was active between the rescue party and the Summit Forest Guard

Station. From this station, forest telephone communication gave the listening world a graphic account of the rescue work as it proceeded step by step. There was no period of silent suspense which is the usual accompaniment of such rescue experiences. From the moment it was set up at the scene of rescue the little forest fire radio set proved invaluable. Through it the outside world was informed promptly as to additional equipment needed for the rescue; and through it the rescuers learned from the outside world when such equipment could be expected on the mountain.

From the rim of the crater the rescued body of Von Norman was transported first by toboggan, then by pack horse and finally by auto, back to civilization. To the heroic efforts of the little knot of mountaineers and Forest Service men, who at the risk of their own lives worked steadily through that long night and gave unstintingly for the forelorn hope that the lost might still be alive, too high praise cannot be given. They did a splendid piece of work, ably applying the uses of modern scientific invention to the harshest and most hostile of surroundings.

When Writing Advertisers—Mention AMERICAN FORESTS

The American Forestry Association



1713 K STREET, NORTHWEST

Washington, D. C.

President

HENRY S. GRAVES

Treasurer

GEORGE O. VASS

Assistant Treasurer

I. J. ROBERTS

Executive Secretary

OID BUTLER

Forester

G. H. COLLINGWOOD

Business Manager

FRED E. HORNADAY

Vice Presidents

C. VIVIAN ANDERSON—Ohio
HARRY LEE BAKER—Florida
President, Association of State Foresters
MAJOR GEORGE L. BERRY—Tennessee
President, Central States Forestry Congress
MRS. H. C. BOGART—Colorado
Chairman Committee on Parks, Forests and
Wildlife, General Federation of Women's Clubs
GEORGE H. CECIL—California
Los Angeles County Conservation Association
FRANCIS R. COPE, JR.—Pennsylvania
Pennsylvania Forestry Association
DONALD DENMAN—Washington
Crown Willamette Paper Company
NEWTON B. DRURY—California
Save-the-Redwoods League
L. E. FREUDENTHAL—New Mexico
American Farm Bureau Federation
R. B. GOODMAN—Wisconsin
Goodman Lumber Company
DR. C. D. HOWE—Canada
Department of Forestry, University of Toronto
MRS. ROY A. MAYSE—Indiana
Chairman of Conservation, D. A. R.
DR. M. G. NEALE—Idaho
President, University of Idaho
MRS. ANNA B. SCHERER—Connecticut
CHARLES W. SAUNDERS—Washington
J. RUSSELL SMITH—New York
Columbia University
FREDERIC C. WALCOTT—Connecticut
DR. HENRY BALDWIN WARD—Illinois
American Association for the Advancement of
Science
JOHN W. WATZEK—Illinois
Crossett Wattek Gates Lumber Company
MRS. WILLIAM L. WILSON—Florida
Chairman, Department of Conservation, Gen-
eral Federation of Women's Clubs
MRS. ROBERT C. WRIGHT—Pennsylvania
Chairman, Conservation Committee, Garden
Club of America

Board of Directors

F. W. BESLEY, 1935—Maryland
State Forester of Maryland
W. R. BROWN, 1939—New Hampshire
Chairman, New Hampshire Forestry Commis-
sion
C. ARTHUR BRUCE, 1935—Tennessee
Director, Hardwood Manufacturers' Institute
SAMUEL T. DANA, 1937—Michigan
School of Forestry and Conservation, Univer-
sity of Michigan
WILLIAM B. GREELEY, 1938—Washington
West Coast Lumbermen's Association
W. B. GREELEY, 1936—New York
Camp Fire Club of America
A. S. HOUGHTON, 1939—New York
New York State Re-forestation Commission
THOMAS P. LITTLEPAGE, 1938—District of
Columbia
Past President, District of Columbia Chamber
of Commerce
WILLIAM S. B. McCALEB, 1936—Pennsylvania
Pennsylvania Railroad
JAMES G. K. McCURE, JR., 1937—North
Carolina
President, Farmers Federation
JOHN C. MERRIAM, 1936—Dist. of Columbia
President, Carnegie Institution of Washington
GEORGE H. MYERS, 1939—Dist. of Columbia
GEORGE W. Sisson, JR., 1935—New York
American Paper and Pulp Association
WILLOUGHBY G. WALLING, 1938—Illinois
Chairman Executive Board, Izaak Walton
League of America
WILLIAM P. WHARTON, 1937—Massachusetts
National Association of Audubon Societies

What the Association Is Working For

A DEQUATE FOREST FIRE PROTECTION by fed-
eral, state, and other agencies, individually and in co-
operation; the REFORESTATION OF DENUDED LANDS,
chiefly valuable for timber production or the protection of stream-
flow; more extensive PLANTING OF TREES by individuals,
companies, municipalities, states, and the federal government; the
ELIMINATION OF WASTE in the manufacture and consump-
tion of lumber and forest products; the advancement of SOUND
REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE
FORESTS where local and national interests show them to be
desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC
AND PRIVATE FORESTS so that they may best serve the per-
manent needs of our citizens; the development of COMMUNITY
FORESTS.

FOREST RECREATION as a growing need in the social
development of the nation; the PROTECTION OF FISH AND
GAME and other forms of wild life, under sound game laws; the
ESTABLISHMENT OF FEDERAL AND STATE GAME PRE-
SERVES and public shooting grounds; STATE AND NATIONAL
PARKS and monuments where needed, to protect and perpetuate
forest areas and objects of outstanding value; the conservation of
America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school chil-
dren, in respect to our forests and our forest needs; a more aggres-
sive policy of RESEARCH AND EDUCATIONAL EXTENSION
in the science of forest production, management, and utilization, by
the nation, individual states, and agricultural colleges; reforms in
present methods of FOREST TAXATION, to the end that timber
may be fairly taxed and the growing of timber crops increased.

Index to
ADVERTISERS
MARCH, 1935

	PAGE
Aermotor Company	132
Alanwold Nursery	146
Allan Ranch	134
American Fork and Hoe Co.	141
American Telephone & Telegraph Co.	2nd Cover
Andorra Nurseries, Inc.	98-150
Atlas Powder Company	137
Bartlett Manufacturing Co.	137
Belcher, H. D.	146
Bobbink & Atkins Company	150
Cavalier Hotel	143
Central Camera Company	142
Chalfonte-Haddon Hall	136
Cherry Hill Nursery Co., The	138
Cleveland Tractor Co., The	99
Dodson, Inc., Joseph H.	149
Elfgren Nurseries	138
Fechheimer Bros. Co., The	149
Franklin Forestry Co.	138
Herbst Brothers, Inc.	142-149
Hester Plow Company, Inc.	139
Idaho School of Forestry	147
Jericho Turnpike Tree & Shrub Nursery	134-150
Keene Forestry Associates	138
Kelsey Nursery Service	4th Cover
Kelsey Nursery Service	138
Lewis & Valentine Company	98-150
Lewis Nurseries, Inc.	150
Maine School of Forestry	142
Matthies, Katherine	142
Mears, A. H. G.	149
Meehan Company, Thomas B.	150
Morrison Hotel	136
Moon Co., Wm. H.	150
National Association of Gardeners	139
National Rifle Association	140
Natural Bridge of Virginia, Inc.	134
New York State College of Forestry	147
Northern Pacific Railway	133
Northwest Airlines, Inc.	135
Oberlin Peony Gardens	146
Old Town Canoe Company	145
Pacific Marine Supply Co.	3rd Cover
Pacific States Equipment Co.	134
Plumb, Inc., Fayette R.	132
Porter, Inc., H. K.	130
Rakestraw-Pyle Company	150
Roslyn Trucking & Supply Co.	150
Schumacher, F. W.	146
Seattle Tent & Awning Co.	130
Smith & Company, D. B.	131
Stoeger, Inc., A. F.	145
Terrell	146
Towson Nurseries	98-150
Union Fork & Hoe Company	139
Western Maine Forest Nursery	138
Wisconsin Aquatic Nurseries	146

GEORGE D. PRATT

(Continued from page 109)

with important conservation situations were developed. Among these were the Southern Educational Project, directed against the annual burning of the woods in the South, and the National Nut Tree Planting Project to interest the Boy Scouts of the country in the restoration of native nut trees. Mr. Pratt was deeply interested in the education of children in conservation and at his own expense provided several hundred Association medals which are being awarded from year to year to children throughout the United States in recognition of outstanding work in forestry or other phases of conservation.

Although a wealthy man, it was Mr. Pratt's principle that public organizations should operate on their earned income and not be dependent upon special contributions from year to year. That having been accomplished early in his administration, he proposed an endowment fund to give more permanence to the Association's work and he offered to contribute \$100,000 conditional upon an equal amount being subscribed by the membership. Responding enthusiastically to his generous proposal, the members of the Association over-subscribed their quota with the result that at the time Mr. Pratt retired as president the Association's endowment fund amounted to \$265,000.

WANTED--A FEDERAL POLICY

(Continued from page 112)

function there, the federal government actually has begun to break down such potential sustained yield units by acquiring key tracts of the thriftest second growth. Such activities serve no really important constructive purpose. The backward private owner does not require better example than already is furnished by some of his neighbors. The erstwhile owners of certain tracts were not even in desperate financial straits. They were not discouraged and anxious to quit; on the contrary, they were almost convinced of the wisdom and practicability of placing their forest operations upon a sustained yield basis and thereby perpetuating the communities which through the years had been dependent upon their sawmills.

When the operations of these going concerns are interrupted by the intervention of the government, the result will be, at least for several years, exactly the opposite of social betterment, for the communities concerned. Forest acquisition, as it is now being conducted in the Southern Coastal Plain, violates most of the recommendations of the various groups which have offered national forestry plans, and also ignores the expressed desires of President Roosevelt.

There are many shades of thought upon this subject of public forest acquisition. No public or private agency has a monopoly of ability to think straight or give sound advice. In fact, opinions vary almost as widely within government walls as without. It is important that consideration be given to the views of all who have struggled with the problems of American forestry. They should be neither muzzled nor condemned because of their allegiances.

In order that the acquisition program may have the consideration and approval of qualified groups and individuals, it certainly should be formulated in the open under the same bright light that beats upon every constructive proposal advanced by industry.

WHO'S WHO

Among the Authors in This Issue

REED W. BAILEY (*Shackling the Mountain Flood*) is a geologist, formerly with the Utah Agricultural College and at present with the Intermountain Forest Experiment Station, in charge of geological phases of streamflow-watershed problems in connection with the control of erosion in the Rocky Mountains.



A. G. T. Moore

A. G. T. MOORE (*Wanted—A Federal Policy of Forest Purchases*) is manager of the Conservation Department of the Southern Pine Association, New Orleans, Louisiana, with which organization he has been connected for more than twenty years. When Article X of the Lumber Code was adopted, he was charged with the responsibility of administering its provisions in the Southern Pine Region.

A. O. WAHA (*From Oregon's Jungfrau*) is Supervisor of the Mount Hood National Forest, Oregon. Formerly Assistant Regional Forester at Portland, Oregon, and Albuquerque, New Mexico, Mr. Waha has had more than thirty years' experience in forest work in the West.

CALVIN RUTSTRUM (*Illicit Trafficking in Beaver—Part II*) lives in Minneapolis, Minnesota. A number of his interesting and dramatic articles have appeared in AMERICAN FORESTS.

BEN EAST (*Must the Isle Royale Moose Starve?*) is Nature Editor of a chain of eight Michigan daily newspapers published in Bay City, Saginaw, Flint, Ann Arbor, Jackson, Kalamazoo, Grand Rapids, and Muskegon. When he is not in his editor's chair he is in the field with his camera.



Ben East

DONALD W. PIERPONT (*Hachinoki*) teaches at the St. Paul's School for Boys at Baltimore, Maryland. He is a graduate of the University of Richmond, where he majored in botany, and at present is enrolled at Johns Hopkins University.

FRED W. MORRELL (*The Trees of the Old Homestead*) is Assistant Forester in charge of Public Relations, United States Forest Service. For twelve years he was Assistant Regional Forester in the Rocky Mountain region, with headquarters at Denver, following which he became Regional Forester at Missoula, Montana. Since 1929 he has been located in Washington, D. C. Mr. Morrell is a native of Nebraska.

JOHN HARVEY FURBAY (*Field and Forest for Boys and Girls*) is Professor of Nature Education at the College of Emporia, Kansas. G. H. GOLLINGWOOD (*Forestry in Congress*) is Forester for The American Forestry Association.

PACIFIC PUMPERS



THE MODERN "BUCKET BRIGADE"

To fight fire with water has always been the most effective method. Bucket brigades and fire engines have both used it for years—but

Fire engines cost a lot of money. They need good streets to run on—hydrants to pump from, and they are afraid of the woods—

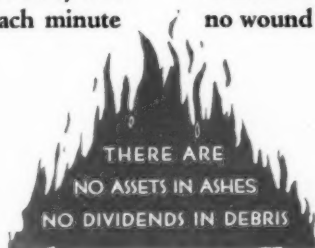
Bucket brigades waste most of the water, and who can throw a bucket of water over a tree or a roof? And men get tired.

Portable power pumpers are miniature fire engines without wheels and sirens. They will put 100 GALLONS of water each minute

Distributors for service and parts are located throughout the United States, Canada, the Orient and the Philippines.

on the heart of a fire—they will pump out of a well or creek—they are at home in the woods—anywhere that a man can walk. They are inexpensive and they will throw water out of a nozzle 100 feet in the air. Even Paul Bunyan couldn't throw a bucket that far—*And Portable Pumps don't get tired.*

PACIFIC PORTABLE PUMPERS are recognized as the most efficient of all light weight equipment. They have fought more fires in the woods, on farms and in towns than all other makes of portable pumps combined. They have a service record but no wound stripes. You can't hurt them.

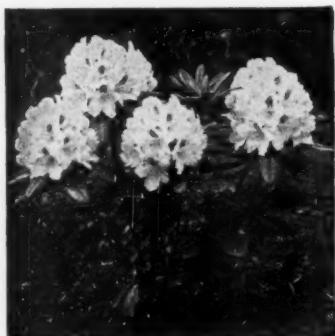


Let us send you complete catalogue information. A line to us at Seattle will bring it.

Manufactured in Seattle, U. S. A., by

PACIFIC MARINE SUPPLY COMPANY

A Startling New Catalogue



Thinking of Planting RHODODENDRONS?

Then plant the best. Hardy grafted hybrids. Here are a few of those we offer:—

Ignatus Sargent—rose
Mrs. Sargent—bright pink
Dresselhuys—vivid red
Roseum elegans—rose
America—deep red
Amphion—clear pink
Catawbiense album—white
Everestianum—rosy-lilac
Lee's Dark Purple

Heavy specimens with buds for this June flowers. 2 to 2½ feet, \$4.75 each! 2-year graft, 10-15 inches, \$2 each.

YOUNG ARISTOCRATS

Grafted, balled and burlapped. Rare and choice kinds.

Red-flowering Dogwood—

18-24 inches \$1.00 each
2 to 3 feet 1.30 each

Japanese Bloodleaf Maple—

12 to 15 inches \$1.00 each
21 to 24 inches 2.50 each

Purple Beech—

12 to 18 inches \$1.00 each

Koster Blue Spruce and

Moorheim Blue Spruce—
10 to 16 inches \$1.60 each
15 to 18 inches 2.25 each

MAGNOLIAS

Stellata—April 10—white
Soulangiana—April 23—lilac
Lennei—May 1—red and white
Nigra—May 15—Purple and white
12 to 18 inches \$1.25 each
All four, prepaid East of Iowa, for \$6

RARE STEWARTIAS

These gorgeous flowering trees put forth large white flowers like Camellias in June and July. They are exceedingly rare and choice.

S. pentagyna

S. pseudo-camellia

We offer small plants (about 12 inches) postpaid @ \$1.00 each.

Working on the principle that only the most beautiful of each group can earn its place in this list of Aristocrats, we have prepared a book of 44 large pages. There are 150 photographs, of which 101 are in full color. Moreover, there are pages of amazing bargains. This book will save you as much as half!

Coniferous evergreens—109 selected varieties
Broadleaf evergreens—143 varieties, of which 112 have beautiful flowers! All hardy.
Azaleas (54 different)
Rhododendrons (43 kinds)
Magnolia (10 kinds)
Japan Cherries (12 selections)
Flowering Crabs (15 kinds at a bargain)
Cotoneasters (10 species)
Heather (13 kinds)
Holly (14 species and varieties)
Tree Peonies, Davidia, Stewartia, Daphne, Leiophyllum, Grafted Japanese Wisteria, New Large Hybrid Blueberries, etc.
Hardy Grafted Nut Trees for the North.
Dwarf Esapalier Fruit Trees for walls.
And Our Specialty—A list of seedlings and small trees and shrubs for Forestry and Lining-out—priced from ½ cent each and up.

KELSEY'S 1935 SHORT GUIDE

Copy free if you mention *American Forests*.
A charge of 50c if mailed west of Iowa.

Here are Some SURPRISING BARGAINS in Evergreens for Mass or Screens

Lowest prices since the business was established in 1878! Fine healthy stock with good roots.

PINES (Pinus)				
Red	Inches	Transplanted	(100)	(1000)
(Resinosa)	18 to 24 twice(good)	—	\$ 9.00	\$ 60.00
	30 to 40 three(good)	—	28.00	175.00
Austrian	12 to 18 once(good)	—	9.00	70.00
Scotch	24 to 36 twice(heavy)	—	15.00	90.00
SPRUCES (Picea)				
Colorado (blue and green)	18 to 24 twice(bushy)	—	25.00	180.00
	12 to 18 twice(bushy)	—	20.00	150.00
	9 to 12 twice(nice)	—	10.00	80.00
Englemann blue	9 to 12 twice(bushy)	—	10.00	80.00
	12 to 18 twice(bushy)	—	12.00	100.00
White (alba)	12 to 18 twice(good)	—	5.00	40.00
Norway (excelsa)	18 to 24 twice(good)	—	8.00	60.00
	12 to 18 twice(good)	—	6.00	40.00
FIRS (Abies)				
Concolor (silver)	10 to 12 twice(bushy)	—	20.00	150.00
Balsam	12 to 18 twice(good)	—	6.00	50.00
Douglas	12 to 15 twice(bushy)	—	16.00	100.00
	18 to 24 twice(bushy)	—	20.00	180.00
Nikko	12 to 15 twice(bushy)	—	30.00	250.00
Veitch's Nordmann (very rare)	8 to 10 twice(good)	—	50.00	400.00
Fraser's	12 to 15 twice(good)	—	30.00	250.00
HEMLOCK (Tsuga)				
Canadian	18 to 30 once(good)	—	17.00	125.00
	24 to 36 twice(bushy)	—	30.00	220.00



A YEW HEDGE FOR 14c A FOOT! (while they last)

Dense dark green, winter and summer. The hardy Japanese Yew is the finest hedge plant known to horticultural science. Even a small, cheap Privet hedge costs 10 cents a foot, for it is planted 6 inches apart, while the Yew should be placed 1½ feet in the hedge. Plants 12 to 15 inches high, packed in damp moss. Price \$20 per 100 (150 hedge feet). Twice transplanted. Also larger sizes:

1½ to 2 feet (balled) (100) \$ 90.00
2 to 2½ feet (heavy) 120.00

Hurry-Tree CHINESE ELM

Strong wood, handsome appearance. For dry and sandy soils, there is no finer tree. Grows from 2 to 6 feet a year when once established!



(each) (100)
6 to 8 feet \$1.00 \$ 75.00
10 to 12 feet 1.75 130.00
1¾ to 2 inches 3.00 250.00

The Long-Lost FRANKLINIA

The Franklinia (Gordonia alatamaha) is the rarest native American flowering



tree. Found by John Bartram in 1790 and never found since, all specimens are propagated from the original single tree of Bartram's which has since died. A small tree to 30 feet with white showy flowers 3 inches across in August. 12 to 15 inches postpaid east of Iowa for \$3.00. 3 to 4 foot, heavy, \$8.00 (not prepaid—f. o. b. New Jersey).

KELSEY NURSERY SERVICE

Established
in 1878

Fifty Church Street, New York City

Members
AAN, NRA

